Somatics, creativity, and choreography: creative cognition in somatics-based contemporary dance

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By

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Abstract

This doctoral thesis will comprise an in-depth, multidisciplinary and mixed-methods research project examining creativity in Somatics-based choreographic practices. The project draws on methodologies from phenomenology, ethnography, close reading, grounded theory, and thematic analysis. It involved data collected from three well-known Somatics practitioners who embody a professional hybridity as artists, authors, and Somatic Movement Educators—Sandra Reeve, Andrea Olsen, and Miranda Tufnell—and who each use their somatic practice as instrumental in their choreography. Each practitioner utilises different Somatics modalities (Move into Life, Authentic Movement, Embodied Anatomy, Alexander Technique, among others) in various settings (higher education, community arts, professional practice, etc.), which provides an international (US and UK) and cross-modality scope to examine shared ideologies within Somatics. Data was collected in a semi-structured, open-ended interview process, participant observation of workshops and intensives delivered by the artists, and a close reading of their published texts. It was analysed for emergent shared themes. I posit that these themes identify connections between the identification, definition, and facilitation of creativity within Somatics-based choreographic practice and cognitive psychological theories of creativity. I identify shared elements of the pedagogical environment and argue that they facilitate the development of a refined perceptual ability. This perceptual expertise is presented as a change-agent in facilitating both novelty in movement generation and the generation of meaning, allowing for a discerning, selective retention of this movement material in giving form to that meaning choreographically. Situating the processes within the Interacting

Cognitive Subsystems model and theories of embodied cognition, I then propose a philosophical audit-trace of the ways in which this meaning and expertise is developed cognitively in somatic practices, and how that expertise may allow for novelty and creativity in choreography. The research closes with a discussion of implications of my proposal, how understanding these pathways might be instrumental in shaping dance pedagogy to facilitate dancers' creativity, and what directions this theory produces for future research.

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CHAPTER 1. INTRODUCTION

As someone with a choreographic practice dating around 18 years, I have noted shifts in my choreographic creativity as my own dance practice expanded. For example, as I trained in different disciplines, new movement pathways became 'normal' to my body, and my range of choreographic movement vocabulary expanded. Yet the biggest shift in my practice came from my introduction to somatic practices during my Master's degree in Dance and Somatic Well-Being in 2008. Becoming more aware of my own embodiment, as facilitated by Somatics, allowed me a greater sense of my self and greater awareness of my own physicality, and thus my own movement. I felt I had more understanding of my anatomy, and that this understanding was not only academic (i.e. of myself as a biological organism, or an objective perspective), but was a felt sense of my self—a subjective understanding. I gained a sense of empowerment—an ability to 'own' my own idiosyncratic ways of moving, my artistic 'voice'—but, moreover, I was able to experience myself on an ever-finer level, to differentiate subtleties in physical states and in movement pathways which opened up avenues for more creative movement. Many times, I encountered claims that Somatics increases creativity. Indeed, I found that through somatic practice my choreographic practice was extended, and I found new forms in my creative process. Thus, for me, a key question arose: is this experience shared—do other choreographers feel that somatic practices have grown their capacities similarly? And if so, how does Somatics give rise to creativity in choreography? My doctoral studies, as a part of the wider Leverhulme Trust funded 'In the Dancer's Mind' project looking at creativity and cognition in dance, allowed me an avenue to investigate these questions on creative cognition within somatic practices.

To answer whether my experiences resulting from Somatics were shared, it was necessary to gather data from other dance artists who are Somatics practitioners. And if so, to investigate whether (and how) creativity is facilitated through Somatics. Creativity research is largely situated within the cognitive psychology paradigm, the branch of psychology concerned with higher-order mental processes. Therefore, I needed to approach the research with an interdisciplinary focus combining dance studies and cognitive science. I sought to examine perspectives from other artists who base their choreographic practice in somatic practices to ascertain whether they shared my understandings. From there, I could question whether our common perspectives aligned with or challenged perspectives from cognitive discourses. I term these artists' practices 'Somatics-based choreography,' as the artistic practice stems from Somatics as opposed to choreography *not* sourced in somatic practice; however, though the artists themselves acknowledge somatic practices as the base of their choreographic work, the application of this terminology to their practice is my own.

Somatics is a field encompassing a variety of mind-body integration techniques, which emphasises a first-person, felt sensation of the living body. The term *somatic* is derived from the Greek *somatikos*, which means 'of the body' and was first introduced by Thomas Hanna (1970) to describe the practices that value this subjective experience and enhance embodied awareness through the integration of perception and action: this approach is at the core of all the modalities practiced under the umbrella term *Somatics* today. It is used in both

therapeutic and educational contexts (Hanna 1977, Olsen 2015, ISMETA 2015), and has been integrated into dance studies internationally (Berardi 2007, Eddy 2009, Long 2002, Myers 1983, Reed 2011). Somatic practices include both structural integration and open-framework techniques (Weber 2009), but are broadly characterised by mindful movement with a holistic consideration of body, psyche, and spirit (Hanna 1977, ISMETA 2015). It would be prudent to mention that the terms *somatic* and *Somatics* are used discriminately, and there are discrepancies in their application. Though there is some debate in the field about whether or not to capitalize the word *Somatics*, I opt to capitalize when referring to it as a field or discourse to differentiate from the adjective *somatic*. In this thesis, I use *somatic* as an adjective/descriptor, according to its dictionary meaning, relating to the body (Oxford Dictionary 2016), and *somatic practices* to designate the variety of practices relating to the living body as felt from within. I use the capitalized form, *Somatics*, when referring to the field of mind-body integration practices as a whole. This approach is in accordance with my training on the Masters-level Dance and Somatics course as well as in line with Somatics pioneer Don Hanlon Johnson's (1997: 9-10) own usage, and his recap of how Hanna created the term *Somatics*, differentiating it from *somatic*.

For many, Somatics is integral to their creative practice, so some criteria were needed to narrow the field and select artists for my study. Thus, I identified three criteria for inclusion, which are that they were published authors, well-known artists and expert practitioners, and were actively creating performance work from their somatic practice(s). Because it was beyond my capabilities in this research to be present for the full dynamic unfolding of an artist's choreographic

process, my discussion about the choreographic in this thesis therefore derives from these artists' views on their own process, as presented in their reflections during interviews, workshops, and in their published writing.[1] And because I, too, am a choreographer who sources my choreographic process in my somatic practice, my interpretation is necessarily implicitly filtered through my own self-reflection on my somatic and choreographic practices. This experience is the 'lens' through which I interpreted the artists' data, and themes identified here are therefore as applicable to my own Somatics-based choreographic practice as they are to Tufnell, Olsen, or Reeve's.

Creativity research generally defines *creativity* as the production of something both novel and useful, and argues that higher-order processes like attention, reasoning, decision-making, problem-solving, analysis, synthesis, evaluation, and so on are integral to creative generation (Amabile 1996, Campbell 1960, Kaufman 2016, Kirsh et al. 2009, Koestler 1964, Runco 2007, Sawyer 2012, Sternberg 1999, Stevens, Malloch and McKechnie 2001). To understand dancers' creativity, it is imperative to consider their cognitive processes in dancemaking—and yet, to date little research exists that examines creative cognition in dance, even in texts that feature or include an arts focus (e.g. Sawyer 2012, Weisberg 2006, Winner 1982). Further, as Nickerson (1999: 407) states, 'A

[1] Reeve had a travelling culminating 'sharing' toward the end of her retreat, made by participant artists with contributions by Reeve herself. Similarly, Olsen did spend about a week to create a performance 'showing' from her BEING score for the *Body and Earth* cohort at Bates Dance Festival; however, the performance made was not the main focus of the course, nor was it something that Olsen spent any extensive time in research and development creating. It was also co-created with students—for instance, each student created a phrase from prompts, and Olsen created an order or structure from her score into which these were slotted. I presume from Olsen's own account of her creative process, that this 'showing' was not reflective of her normal choreographic process.

clear, unequivocal, and incontestable answer to the question of how creativity can be enhanced is not to be found in the psychological literature,' much less one centred on facilitating creativity in dance or Somatics.

Though the research is not extensive, a small number of studies have looked at creative cognition in dance, such as the Unspoken Knowledges project developed by Robin Grove and Shirley McKechnie (2005), studies on social aspects of embodied cognition (Łucznik 2015, Muntanyola Saura 2011, Stevens and Leach 2015) and the multimodal nature of choreographic generation (Anon. 2015, Kirsh et al. 2009, May et al. 2011, Muntanyola 2014). Studies like these show that dance, as a multimodal form grounded in bodies-in-action, is a prime medium for exploring creativity and advancing existing cognitive models: in dance, creative generation is not only a cognitive act, but also a kinaesthetic one, a form of embodied cognition (Batson and Wilson 2014, Huddy and Stevens 2014, Kirsh 2011, May and Barnard 2004, May et al. 2011, Stevens, Malloch and McKechnie 2001, Stevens et al. 2003, Tweney 2005).

Furthermore, research from dance studies has shown that somatic practices have many benefits for dancers (Arnold 2005, Batson and Schwartz 2007, Batson 1990, Batson 2009a, Debenham and Debenham 2008, Fortin, Vieira and Tremblay 2009, Green 1999). For example, their impact on aspects which enhance a person's quality of life, such as autonomy, well-being, and artistic integrity is well-reported (Brodie and Lobel 2004, Dyer 2009, Eddy 2009, Fraleigh 2004, Sheets-Johnstone 2013, Weber 2009). Furthermore, Somatics has been shown to enhance dance students' self-understanding and their

relationships with others (Rouhiainen 2008). Somatics allows dancers to access, use, and balance their bodies through multi-system support and imagery to promote efficiency in movement (Batson and Schwartz 2007: 51). However, though some research has claimed Somatics enhances creativity (Green 1996a, Green 1996b, Haas 1996, Johnson 1995, Weber 2009), little research has been done to test this theory, and none has examined how cognitive processes might operate within Somatics to enhance creativity (Weber 2017, Weber 2018). Thus, this doctoral research builds upon questions generated by deLahunta, Clarke, and Barnard's (2012: 244) work, in which they asked, 'How can a scientific understanding of the organization of the mind provide ideas that can be used to augment creativity in dance, and how might somatic approaches both learn from and contribute to this?'

Situating my inquiry within subjective and interpretivist frameworks, I question whether my experience is normative, and if so, which aspects of somatic practices aid in the development of creativity. Such an approach 'allows the focus to be fixed on *understanding* what is happening in a given context rather than just measuring it' (O'Gorman and MacIntosh 2015: 65, original emphasis), as most cognitive approaches to studying creativity might. As such, my objective is to combine multimodal accounts of several somatic-educator-and artists' perspectives with cognitive psychological theories to investigate whether the scientific frameworks support the Somatics perspectives. The goal is to understand, through a cognitive lens, the embodied processes of meaning-making in Somatics-based contemporary dance, and how they may contribute to creative choreography. I review relevant literature from dance studies, Somatics

research, philosophy, and psychology in Chapter 2, before discussing the methods through which I seek to answer these questions in Chapter 3.

Because of the intrinsic richness in creating an interdisciplinary study like this, as well as the inherent complexity in dance, I have chosen a mixed-methods approach to my research design. My methods include elements of phenomenology, grounded theory, ethnography, close reading, and thematic analysis to investigate data sources which include participant observation (and the associated field notes and recordings), open-ended qualitative interviews, and textual analysis.

Chapters 4 through 10 contain my analysis, answering my inquiry as to whether my perspectives were normative and addressing the research question of what shared thinking exists around creativity in Somatics. Here, each chapter examines its own theme (or closely related themes) and their shared contributions to my original analysis of primary and secondary sources. At the start, I introduce the three artists,[2] Andrea Olsen, Sandra Reeve, and Miranda Tufnell, whose work and perspectives comprise this abundant pool of data.

[2] In our interviews, I asked the artists each how they self-identified as a professional, as they each wear many different 'hats.' Olsen called herself an 'artist-educator' and referenced her roles as choreographer, writer, performer, lecturer, and translator or intermediary between academic and performative circles. Reeve identified as an artist, researcher, educator, facilitator, movement psychotherapist, and 'movement author.' Tufnell calls herself a 'dance artist, writer, and therapeutic body worker,' with movement and dance as her primary role; she also noted that as a body worker, she is a craniosacral therapist and Alexander teacher. I respect this variety of roles, and acknowledge that even my criteria for inclusion required them to be artists, authors, and educators. However, throughout this thesis, I will refer to them, for simplicity's sake, as 'artists' (Olsen 2015, Reeve 2016a, Tufnell 2016a).

These perspectives were gathered through interviews with the artists,[3] participant observation of their workshops, and analysis of their published works.[4] In examining their plural perspectives, multiple Somatics modalities, and practice within varying settings, I aim to create a set of pan-Somatics shared themes around creativity in somatic practice. These themes are then grouped in my analysis as shared or key themes, each of which may contain sub-themes. Themes are also organised into a developmental flow, beginning with the shared pedagogical themes (including: a safe environment, connection [to self, to other, and to the environment], balancing inner and outer, and agency/autonomy/choice), presented in Chapter 5, which I argue lead to the key theme (and change-agent) of a refined sensory perception (Chapter 6) that then facilitates the subsequent key themes of novelty/habit (Chapter 7) and meaning (Chapter 8). Meaning in this model is supported by sub-themes of embodied cognition and nonpropositional meaning. The interaction between novelty and meaning allows for the next key theme of finding form (Chapter 9), and the final theme of usefulness (Chapter 9). Chapter 10 draws together the findings from this data analysis to offer an overview of these commonalities.

Finally, having discovered this shared thinking within Somatics contexts, offering an answer to 'what' is involved in creativity there, the question remains of the 'how.' Chapter 11 again returns to the psychological theories, with a

[3] Though Coventry University (and Harvard style) regulations stipulate that interviews conducted by the researcher are considered data and do not require citation, I am citing them in this thesis as interviews to distinguish them, particularly in direct quotations, from the other multimodal forms of data collected which, especially in published work, are cited thusly. As such, I will also cite interviews/communication with theorists, outside the data formally collected and analysed, likewise.

[4] Lists of these interviews, workshops, and publications are offered in Appendices 3 and 4.

consideration of these emergent themes and their situation within cognitive theory, to address just that. In this chapter, I draw upon theories of embodied cognition (Gibbs 2005, Robbins and Aydede 2012, Shapiro 2011, Varela, Thompson and Rosch 1991) and the Interacting Cognitive Subsystems (ICS) model used within previous creativity research with dancers (deLahunta, Clarke and Barnard 2012, May et al. 2011). Some of these previous studies have indicated that expertise has implications for driving movement creation (deLahunta, Clarke and Barnard 2012: 245-6, May et al. 2011: 420, 429). So what forms of expertise are being developed in Somatics that contribute to the generation of creative choreography? I propose a processing flow that may be occurring in Somatics contexts, leading to a level of expertise in both knowledge content and thinking patterns. I argue this expertise facilitates creativity through a broader range of choices. After presenting this theory in Chapter 11, I return to some existing literature which may support implications of my proposal and offer future directions for this research in Chapter 12. Here, I inquire whether this knowledge can be applied to facilitate creativity through somatic practices in the classroom, and what avenues for future research on creativity in dance and Somatics might take. I question if the knowledge gained from this inquiry into Somatics may one day challenge the ICS model as it evolves to more accurately reflect the forms of information processing and internal modelling of highly embodied experts. But first, what do we already know about these experts? And what do we already know about creativity? Chapter 2 offers some insight from existing literature, providing an overview of philosophical and historical traditions underpinning Somatics, cognition, and creativity.

CHAPTER 2. LITERATURE REVIEW

2.1 Introduction

This thesis investigates the intersections between choreography in Somatics-based contemporary dance and cognitive psychological research on creativity. This chapter introduces some previous research in these areas. For the purpose of this research, the dance practices that will be examined are performative Western concert dance—sharing a definition of *dance* with interdisciplinary researchers Batson and Wilson as stemming 'primarily from the many forms of mid-twentieth-century western contemporary dance […] largely destined for display' (2014: xv). *Somatic practice* is defined as an umbrella term for the mind-body integration modalities in which the living body, as experienced from within from the first-person perspective, is emphasised. The term *somatic* was first coined by Thomas Hanna (1970) to describe this type of practice; it is now an internationally recognized field (ISMETA 2015).

Cognition entails 'higher order mental processes including attention, memory, learning, reasoning, problem-solving, and decision making' (Henley 2014), and cognitive psychology is the study of these mental processes (Stevens, Malloch and McKechnie 2001). Though many cognitive processes are involved in dance and somatic practice, the specific area of cognitive psychology that my research will be focused on is creativity, which is traditionally defined as generating a product that is both novel and useful (Amabile 1996, Campbell 1960, Koestler 1964). This presupposition that creativity involves novelty is of particular importance in contemporary dance, as it is a field founded upon the rejection of

the canonical and invested in the re-invention of form, de-colonization of the body, and formulation of novel movement sequences (Fortin and Siedentop 1995, Shapiro 1998b). As Batson and Wilson state, 'Science needs the perspective of dancers, those whose cognitive problem solving arises out of the movement moment. […] dance offers a radically anti-reductionist approach to investigating the processes of cognition' (2014: 20). Thus, this research will investigate how creativity informs movement generation in choreographic practice—those processes of problem-solving in the movement moment to discover novel and useful choreography—in Somatics-based contemporary dance. By situating these theories within the Interacting Cognitive Subsystems model of cognition, I propose some solutions for the previously identified problems involving creative cognition research in dance.

As Batson and Wilson argue, cognitive processes in dance are complex, and 'research in cognition and dancemaking remains isolated and in need of greater global visibility and cohesion' (2014: 22-23). Drawing on the work of somatic psychologist Paul Vermersch, they call for researchers who have dual competency in psychology and dance in order to build a body of valid research that evades dualistic concepts of mind and body. As I have backgrounds in dance, Somatics, and psychology, it is my aim to draw on my own dual competencies to highlight potential shared and overlapping considerations while preserving the integrity of each field's ideology, methodology, and language—to build non-dualistic dialogues between the scientific and artistic/embodied while still 'preserving [dance's] unique integrity as a non-reductionist reality of the unity of body, brain, and thinking' (Batson and Wilson 2014: 23).

Furthermore, I argue the field of Somatics is a rich area for creativity research that has not been mined by cognitive psychologists. Somatics researchers claim many benefits to somatic practice, including: creating 'dancers who can move easily in many different styles;' effects that 'strengthen technical capacity, expand expressiveness, and reduce incidents of injury;' and an increased embodiment, empowerment, and well-being; as well as 'new variety in movement quality and patterns,' and 'greater creativity and autonomy within their dance practice' (Berardi 2007: 33, Eddy 2009: 21, Weber 2009: 251). However, to date, the cognition involved in these benefits remains largely unexamined. My research examines how well conceptualisations of creativity within cognitive science frameworks operate within the 'dance-Somatics' (Reed 2011) community, and whether the same considerations for creativity in contemporary dance can be applied to somatic practices.

2.2 Philosophical and Historical Traditions

This chapter offers a brief overview of the ideologies informing Somatics and the historical development of the cognitive science field, including a short discussion of creativity research applied to dance, in order to offer context for this research. Previous research (Weber 2018 in press; Eddy, Williamson, & Weber 2014; Eddy 2009; Williamson 2016) has shown that somatic practices are grounded in feminist and existential phenomenology philosophies. Phenomenology's impact on the development of cognitive science also led to theories of embodied cognition and efforts to include the soma in cognitive processing. This shared

underpinning is a key argument for incorporating embodied cognition perspectives when researching somatic understandings of creativity. As both Somatics and cognitive science share this theoretical grounding in phenomenology and a (feminist) focus on embodiment, these philosophical considerations have impacted my thinking and the design of this research (discussed in depth in Chapter 4).

2.3 Somatics

The separation of the mind and body and the subsequent hierarchy of the mental over the physical have a long history in Western philosophy, from Plato and Aristotle to Descartes and Kant. Often termed a 'Cartesian' split, from Descartes' famous claim, 'I think therefore I am' (Encyclopaedia Britannica 2016), this bifurcation has also given rise to other dualistic thinking, including the valuation of objective over subjective knowledge and experience; reason over feeling; theory over practice; and the verbal over nonverbal. This dualism—or rather, the rejection of it—has, in part, formed the basis of Somatics.

As Somatics researcher Martha Eddy (2009: 6) has traced, Somatics is a field containing many different methods and practices that often existed prior to the realisation of their commonalities and naming as a 'field.' As noted previously, Thomas Hanna (1970) was the first to coin the term *somatics* and conceptually unify these practices. Individual, subjective aspects of perception, attention, and internal authority, are the primary focus of Somatics pedagogies (Williamson 2009). Eddy (2009) illustrates how somatic practices have grown from their

roots in physical education to include an international professional accreditation body and greater visibility (particularly within the academy) and frequent situation within 'dance-somatics' (Reed 2011) contexts. Since this integration, Somatics has become an integral part of dance education and training in the West, where it is known as Somatic Movement Dance Education (Eddy 2006, 2016; Fortin 1995; Mangione 1993; Nettl-Foil 2016; Reed & Whatley 2016; Tarlow-Morgan, Selver-Kassell, Lipman, & Brehm 2016). As the field has evolved, it has included not only approaches codified by Somatics pioneers but also semi-structured and open-framework practices, including blended and hybrid approaches (Enghauser 2007; Weber 2009).

The field is not without criticism. Margherita De Giorgi questions whether claiming such a diversity of approaches as a 'field' might reveal the biases of those claimants (namely Hanna) and that 'the desire of realizing a pre-defined project would produce a fictional but effective convergence' between these methods. Likewise, Isabel Ginot argues that Somatics is undertheorized (2010: 13) and questions the epistemology of somatic practices. Nevertheless, shared underlying ideologies that define them as Somatics, such as a focus on principles over techniques of movement (re)education (Brodie & Lobel, 2012; Johnson, 1986), and an emphasis on individual agency rather than a 'set' of movement patterns, have been identified by many scholars (see Weber 2009).

Both Ginot and De Giorgi question the universalism inherent in claims of somatic practices' efficacy, and both situate their critique through the lens of scientific inquiry. In doing so, they ask that Somatics be evaluated in accordance with 'the

academic standards of validity' (De Giorgi 2015: 58) and assert that Somatics 'needs to affirm its value in accordance with society's belief in the objective truth of science' (Ginot 2010: 13-14). Here, the tensions become apparent between the positivist ontology of science and the subjectivist or constructivist/interpretive ontologies inherent in somatic practices. However, though these approaches are seemingly at odds, mixed-method and interdisciplinary study may support the efficacy of somatic practices regardless. Indeed, Ginot ultimately proposes two changes: 1) the discourse needs to move beyond the founders' norms and 2) somatic practices become *objects* of research and transdisciplinary study. Though it is true that most research into Somatics tends to be qualitative, her qualms about the generalizability of individual accounts and case studies (which can be considered a subset of scientific reliability) ignore existing empirical studies that evidence the benefits of Somatics, as the object of transdisciplinary research within positivist frameworks dating back to the 1930s (Fairweather and Sidaway, 1993; Gamboian, Chatfield, and Woolacott, 2000; Gamboian, Chatfield, Woolacott, and Barr 1999/8; Krasnow, Chatfield, Barr, Jensen, and Dufek, 1997; Studd, 1983; Sweigard, 1939) that continues to today (Wirtanen and Fichtenholtz 2017, for example). As such, it is clear that claims about the effects of somatic practice can be studied both within the post-positivist, qualitative, and subjective frameworks implicit to the practices themselves, *and* as the object of a positivist, empirical scientific study. Indeed, the universalism—or, through another lens, scientific generalizability—may be upheld through multi-disciplinary approaches to researching Somatics. Finally, with regards to science, one of Ginot's main qualms is with the lack of somatic practices' abilities to articulate *how* benefits are realized; through the development of a theory of

cognitive flow in this thesis (Chapter 11), I may offer one perspective that answers this call.

In the second strand of her issue with universality, Ginot (2010:23) argues that Somatics asserts 'an essentialist ideal of the body […] one that brings with it illusions of the natural and organic' (or what De Giorgi [2015: 59] terms 'the suprahuman') such that socio-political contexts and consciences are excised. However, Ginot's limited scope of focus (on first-generation texts) neglects both the progression of the field since its inception and specifically, somatic practices that *do* explicitly situate the body within a cultural context, like Reeve's or Olsen's (field notes 2.6.16, 27.7.16). Even De Giorgi (2015: 62) notes that 'critical approaches' grew in decades following the first generation, 'especially influenced by feminist theories,' and that,

> Whereas the older and most traditional sources [such as those Ginot examined] of the somatic field show a greater interest in (re)defining both bodily essence and a system of norms and values as universal, more recent studies of the field—especially in Somatic Movement Education—understand them, or their application, as instances of normalization and ethnocentrism. (2015: 63)

She further argues, 'Such processes triggered most evidently the social and political side of the somatic practices and their ethics' (2015: 62), indicating the field's evolution. However, feminist philosophies valuing embodiment have long formed part of the revolutionary shift toward Somatics (Eddy 2009, Hanna 1976).

2.3.1 Feminism

The field of Somatics, while built upon phenomenological philosophy, is underpinned by many theoretical paradigms. Eddy also identifies the most

frequently noted as including, 'those characterized by an emphasis on a whole-system perspective: ecology, feminism, spirituality, cultural pluralism, nonviolent change, decentralization of decision-making, and a shift from outside authority to self-responsibility' (Eddy 2002a: 47). Feminism is key here, and encompasses, at its simplest level, a philosophy geared toward overcoming oppression, particularly through resisting gender injustice (Shrewsbury 1997).[5] Many scholars have documented the feminist underpinnings of somatic practices, particularly when pedagogy is concerned (Burnridge 2012, Eddy 2002a, Eddy 2009, Eddy, Williamson and Weber 2014, Fortin 1995, Weber 2009, Weber 2018 in press). Both Somatics and feminism share a concern for the body as a political and epistemological site (Gustafson 1999). As Sylvie Fortin elaborates, Somatics

> generally includes several body-mind and mind-body practices, acknowledges the complex interdependence among the mind, the physical body, and social and behavioural expectations of both the mind and body. Such consideration can inform dance education and dance theory given, on the one hand, the dominance of the masculine, authoritative figures in mainstream formal dance education and theory, and on the other hand, the significant (and increasing) participation of those who are neither masculine nor authoritative—women, children, indigenous cultures, the elderly—in all aspects of dance and dance education. (1995: 2)

Eddy, Williamson, and Weber also connect Somatics pedagogy to feminist traditions in its rejection of dominant male-centred patriarchal authority in various power systems, and note female dominance in the 'second generation' of somatic leaders (2014: 164, 171).

[5] Here, I would like to note that there are many different forms and historical 'waves' of feminism; to address each of them would be beyond the scope of this chapter. I address some of these issues in my forthcoming publication (Weber 2018 in press).

Feminist philosophies value the explicit construction of knowledge, intersectionality, and subjectivity (Gustafson 1999). Feminist researcher Diana Gustafson notes that feminist pedagogies emphasize experiential, embodied learning, claiming, 'Embodied learning enables students to also experience another system of knowledge by becoming subject to it and subject in it' (1999: 266). Furthermore, she claims the incorporation of feminist pedagogy allows for 'reconstruing of the self' and opportunities to change patterns of authority. This transformational reconstruction is mirrored in feminism as well as in Somatics: where feminism seeks to recognise and challenge individual belief and political hegemonies, Somatics seeks to facilitate change for the individual through this shift in autonomy and integrated movement re-patterning. For both fields, 'the personal is political.'[6] Lastly, Gustafson returns to the central concept in feminist philosophy of the body as a political signifier—here, again, she echoes many Somatics scholars, notably Don Hanlon Johnson (1995), Martha Eddy (2002a), and Jill Green (1999, 2002a), in the subversive nature of reclaiming individual autonomy and knowledge through practices of embodiment. As Eddy states, somaticists find that 'this basic focus on the body is at odds with a culture that has denigrated the body' (2002a: 50).

This shared drive toward socio-political and personal change in feminism and Somatics is perhaps reflected most strongly in Green's body of work. Her earlier research on creativity and Somatics (1996c) presented somatic practices as a vehicle for change on the personal and societal levels, while her later work focuses on gender issues in relation to the body in dance education, and whether

[6] This now widely-used phrase was originated by Carol Hanisch (1970).

Somatics provides avenues towards well-being within this setting (1999, 2002a)—again refuting Ginot's concerns that somatic practices negate politicization. Green furthers her earlier (1996c: 267) assertions that 'somatic and creative work provide a vehicle for personal change' even as they are 'inseparable from socio-political consciousness and change' when she develops her 'social somatic theory,' reflecting a shared perspective with feminist philosophies that the self is a social construction and that individual experience (even somatic experience) is inscribed by culture (2001, 2002b, 2013). In other words, even (or perhaps especially) in somatic practices, our meaning-making is necessarily encultured, because the bodies we inhabit are a product of our socio-cultural heritage. Thus, even an experience of embodiment at our most basic human level is inseparable from our personal histories that are housed within that corporeality: 'the body and experiences of embodiment *are* layered, nuanced, complex, and multifaceted—at the level of human subjective experience, interaction, social organization, institutional arrangements, cultural processes, society, and history' (Waskul and Vannini 2006: 2).

In addition, Green (1996a) tracks how her methods throughout this span of work have shifted in response to her own self-awareness and reflexivity, even going so far as to question her own assumptions about creative somatic practice. In doing so overtly, Green combines the emphasis on reflective awareness of Somatics with the explicit construction of knowledge and intersectionality and subjectivity of feminism. In these values, both fields share an underlying postpositivist assumption about the construction of knowledge and meaning as being subjective, and thus inherently address 'different kinds of

questions, questions that are not easily or appropriately answered through statistical data, measurements, or generalizing claims' (Green 2004: 109-110).

Similarly, my research seeks to answer questions that are not so easily suited to objective data collection and statistical analysis. Furthermore, 'feminist research acknowledges that there is often a connection between the research purpose and the private life of the researcher' (Probert 2006: 7) and deems disclosing personal histories to enhance rapport and authenticity important, even when conducted within scientific realms (i.e. health sciences [Harris 2015] and biology/sport medicine [Probert 2006]). Though the goals of my research are not explicitly feminist in aim, like Probert, I found that thinking about 'feminist research offered a process through which I could align my prior experience and research purpose and also humanize my encounters with participants, thus culminating in a rich and authentic account of the process' (2006: 7).

2.3.2 Phenomenology

Existential phenomenology is a philosophy which erupted in the early twentieth century, particularly in the post-World War years. It was formed by a marriage of the concepts of existentialism and phenomenology, and permeated all art forms, from literature and visual art to, more recently—as highlighted prominently by the work of philosopher Sondra Fraleigh—dance (1987).

Edmund Husserl, the father of phenomenology, founded his philosophy through a quest to discover the true essence of things. He was followed by key phenomenological philosophers Georg Wilhelm and Martin Heidegger.

Phenomenology refers to the illumination of things as they are, or what Husserl calls *things themselves*, without recourse to coloured interpretations, meaning that it is a study of consciousness which seeks to reduce what is studied to its essential elements (Beyer 2016). In phenomenology, it is the intentionality of our perceptions—the idea that our consciousness rests on what we perceive through attentiveness and ascribe importance to—that is central. Intentionality (or what cognitive scientists might call 'grounding') is a key element of consciousness; e.g. phenomenology holds that our consciousness is consciousness *of* something, and therefore relies heavily on the immediacy of consciousness. Husserl's student, Martin Heidegger, expounded on his philosophy by shifting the locus of phenomenology from mere consciousness to an ontological existence (*Dasein*), in the process contributing a notion of social existence and prioritizing temporal and historical aspects of being (Wheeler 2017). It was Heidegger's expansion of the philosophy which laid the groundwork for existentialist philosophers to combine the two schools of thought to form existentialist phenomenology.

John-Paul Sartre is widely considered to be the founder of existentialist philosophy, which posits that there is no inherent meaning to existence. As Fraleigh (1987: xxxii) summarizes: 'Existentialist (anti-Hegelian) philosophy and literature had moved against idealism and rationalism to depict humanity in its full complexity, admitting the irrational, the accidental, and the mysterious in life [...] *Nothingness* is the existentialist's point of beginning. For him, life has no predetermined essence; therefore everything is possible.'

Within existentialist philosophy, being is like a tabula rasa, or blank slate, on which we project (or create) our meaning. This outlook is encapsulated by 'Sartre's fundamental statement of existential principle, "existence precedes essence"' (Fraleigh 1987: xxxii). Contrary to popular thought, which associates existentialist philosophy (through the oft-cited work of Friedrich Nietzsche) with nihilism and negativity—assuming that the lack of meaning inherent in existence equates with a negative world-view—more recent existentialist philosophers reject the negativity, choosing instead to see the potential and freedom inherent in nothingness. As Fraleigh (1987: xxxii) clarifies, '[Sartre's] philosophy is activist, a call for the human being to vindicate personal freedom, to act (and create) as a free and responsible agent in spite of uncertainties.'

Taking Heidegger's work one step further, Sartre and his contemporaries, including Maurice Merleau-Ponty, Gabriel Marcel, and Paul Ricoeur, applied existentialist concepts to phenomenological inquiry to form existentialist phenomenology. The combination of existentialist ideology with phenomenology meant incorporating the concept of nothingness. Existentialist phenomenology therefore focuses on the act of *encountering* being, the idea that we creatively make our own meaning: that none is inherent. Additionally, existential phenomenology recognizes that the knowledge we have of consciousness is based in our own perception, which is housed in our body and is inherently affected by the concepts of space, time, gravity, et cetera. This led to the idea of the '*lived body*,' a concept which is central to embodied cognition, experienced directly within dance, and naturally deepens as it threads into Somatics modalities. As Fraleigh (1987: 3) traces,

> Maurice Merleau-Ponty and Jean-Paul Sartre introduced Edmund Husserl's phenomenological method (as a systematic study of the contents of consciousness) into existential philosophy through their concerns for explaining 'bodily being' and their attendant attempts to elucidate 'perception.' Thus the concept of the lived body was technically developed through their joining of existential concerns with the phenomenological method, although the lived-body concept had antecedents in the words of Friedrich Nietzsche, Husserl, and Henri Bergson.

Also inherent in existentialist phenomenology are Husserl's primacy given to subjective experience, Heidegger's grounding of perception in temporality, and Merleau-Ponty's assertion of the importance of rooting study in a physical, bodily consciousness. Merleau-Ponty's contributions revived the importance of bodily knowledge and recognition that consciousness is necessarily based in the physical, lived body (through sensorial perception, a key theme of the theory I develop in this thesis to follow).

It is this epistemological concern—with its shift to an inner authority and valuing of subjectively-becoming—based in Hegel's work, and the self-responsibility found in existentialism, coupled with Merleau-Ponty's rejection of the body/mind dualism upon which Somatics finds theoretical support. Merleau-Ponty, in fact, defines perception as the 'spatial and temporal furrow left by the act of consciousness' and claims that 'all knowledge takes its place within the horizons opened up by perception' (2002: 247, 241). He places this perception squarely within the nervous systems of the body, thereby once again putting the body within the scope of academic regard (2002: 247, 241).

Sondra Fraleigh's work supports this through-line from existential phenomenology to dance and Somatics when she states explicitly,

'Phenomenology is first of all a method that, at its point of beginning, attempts to view any experience from the inside rather than at a distance' and holds that consciousness is gained through internal, subjective perception (1987: xiv). Again, this notion of body-knowledge is central to both embodied cognition and Somatics. Phenomenologist and dancer Maxine Sheets-Johnstone terms this body-knowledge an *implicit body logos*. She states, 'To be thinking in movement means that a particular situation is unfolding as it is being created by a mindful body; a kinetic intelligence is forging its way in the world, shaping and being shaped by the developing patterns surrounding it' (1981: 403). In somatic work, accessing body knowledge is primary, and is supported by the reclamation of the body through a phenomenological valuation of subjective experience and shift to inner authority. Inherent in this shift is the understanding that this inner authority is an entity which holds certain responsibilities.

Applying the 'shift from outside authority to self-responsibility' to dance and somatic practice (Eddy 2002a: 47), one can deduct that Sartre's simplification of existentialism, 'I exist myself,' then can logically become 'I exist my dance'—that dance can (and often does!) exist for dance's sake, and the process of making the dance is primary to the dance that is created. Because this process is primary over the performative product, it is the process which is of particular interest when inspecting choreographic cognition: as a researcher, I am interested in the 'sense-making' or meaning-making occurring within and through the choreographic process, facilitated through the moving body. I view movement as a form of embodied cognition, as the choreographic act attempts to problem-solve and 'know' the dancer's world.

Within the context of both dance and Somatics, this 'existing my dance' is practically applied in the improvisational nature of the work (Foster 2003). 'Existing my dance' occurs as well within somatic practices, as movement accessing the inherent bodily knowledge and sense of well-being is non-restrictive and non-prescriptive and therefore improvisational. As Sheets-Johnstone posits, 'in a dance improvisation, the process of creating is not the means of realizing a dance, it is the dance itself. A dance improvisation is the incarnation of creativity as process and as such, its future is open' (1981: 399). Taking this one step further, in the process of dancing, dancers are constructing their physical bodies—developing muscle tone, flexibility, stamina, circulation, and so on—and are therefore also participating in the act of creating the self which perceives. Fraleigh states, 'I create my body through my choices and my actions, in this I also create myself' (1987: 17). This somatic-becoming through dance exemplifies existential phenomenology's idea of a self-responsible subjectivity.

In sum, Somatics has a history of being founded upon phenomenological philosophy. Phenomenology, whose origination is attributed to Husserl and later modified by philosophers Heidegger and Merleau-Ponty, arises from the belief that meaning comes from our experiences of phenomena, and 'embraces the notion that reality is subjective as people inextricably connect objects with their consciousness of them' (Probert 2006: 3)—meaning that there is no objective reality, only meaning made from our subjective experiences. Phenomenological philosophy and methods have been applied to dance for

decades by philosophers Sandra Fraleigh (1987) and Maxine Sheets-Johnstone (1979, 1981, 1999, 2009). With its combined application to dance studies, along with Merleau-Ponty's insistence of the importance of bodily knowledge and recognition that consciousness is based in the lived body (2002), and Hegel's rejection of the dualism between objectivity and subjective experience (Hegel 1989, Bykova 2009, Zambrana 2017), the philosophies of phenomenology provide a strong framework for the central principles espoused in somatic practices.

2.4 Cognition

The meaning existential phenomenologists claim derives from the physical body's interaction with its world is a higher-order cognitive process, and the idea that cognition is not limited to the mind is one that has long been present in phenomenological discourse. Indeed, Merleau Ponty (2002: 211) asserted, 'movement must somehow cease to be a way of designating things or thoughts, not its clothing but its token or its body,' i.e. movement doesn't designate our thoughts but rather, *is* them. This belief is also evidenced in more recent formulations in dance such as 'choreographic thinking,' 'thinking with the body,' or 'bodymind' currently permeating dance studies (see, for example: deLahunta, Clarke and Barnard 2012, Kirsh 2010, Manning 2013, Parviainen 2002, Rethorst 2012).

However, the Cartesian split between body and mind is of particular importance when connecting a physical practice, such as dance, with the mental or

conceptual processes studied in cognitive psychology. As Somatics researcher Daria Halprin (2003: 37) states:

> Influenced by the Cartesian view of separation between body/mind, humanity/nature, and objective/subjective 'realities,' western civilization succumbed to centuries of dualistic thought. […] Value systems reflected a disembodied relationship with body, emotions, and spirit [...] The belief systems of science, medicine, art, and religion compartmentalized human needs and knowledge into separate areas of concern and disenfranchised the body as locus of experience.

As Halprin identifies, it has long been an effect of science to de-emphasize bodily knowledge in favour of empirical data gathering methods, and cognitive science is no different. Cognition researcher Raymond Gibbs further emphasizes, 'Cartesianism has also led to the romantic view of the body as the last bastion of what is natural, unspoiled, preconceptual, and primitive in experience. Bodily movement is viewed as behaviour, with little relevance to language, thought, or consciousness, and not as meaningful action' (Gibbs 2005: 3-4).

As Batson and Wilson (2014) trace, cognitive science has evolved through three distinct historical periods: the first being computationalist (in the 1950s-1970s); the second, connectionist—or joining neural networks and dynamic systems theory in the 1980s and 1990s; and finally inclusion of the second- or third-generation embodied or enactive cognition. As they state, computational, mathematical models which neglect body and movement in cognitive processing 'still hold primacy' within the field (2014: 40-41).

In these models, cognitive science views the brain as a computational system, with processing happening in neural networks and the body being the 'output' mechanism, having little effect on cognitive processing. Lawrence Shapiro

outlines the historically shared tenets of cognitive science, stating that they reveal a commitment 'to a computational theory of mind, according to which mental processes proceed algorithmically, operating on symbolic representations,' or data which is then input to the brain to process, and subsequently output back into the body from the brain (2011: 27). That which happens between the input and output, or 'all the "action," so to speak,' he states, 'begins and ends where the computational processes touch the world'—a perspective which Shapiro identifies as having been criticised for being solipsistic (2011: 26). This solipsism, or rather the perspective taken which has been labelled thusly, may be reductionist, but it also occurs out of necessity. Without simplification, scientists are unable to 'pin down' the object of their inquiry, and thus unable to confirm or deny hypotheses using the scientific method. It is therefore both a strength (in that it allows for expansion of knowledge) and a weakness (in that it may not necessarily represent the organic conditions outside of the lab or focus of inquiry) of the computational theory (and, by extension, of the scientific method in general). Because of traditional cognitive science's tendency to view cognitive processes as computational, beginning with mental reception of symbolic inputs and ending with the production of encoded outputs, 'the subject matter of cognitive science lays nestled between the peripheral shells of sensory organs and motor systems, making possible an investigation of cognition that needn't concern itself with understanding the cognizer's environment nor with examining the interactions between the two' (Shapiro 2011: 28). Therefore, historically cognitive science was generally unconcerned with the body and could justify a focus on the brain without regard for anything beyond human mentality—thus strictly adhering to,

and reifying, the Cartesian hierarchy outlined above. Given this narrowing of perspective, the ways in which 'traditional' cognitive science has been challenged or questioned—i.e. criticised for being too narrow or reductionist—become readily apparent.

For example, Sheets-Johnstone (1999) emphasizes the centrality of the animate form in human thought and critiques the fact that cognitive science's traditional predilection to view the brain as a computational information-processing system ignores this animate aspect. As she clarifies, existential phenomenology '[goes] back into actual experience, to the things themselves—or more precisely, to us ourselves—thereby showing first how movement is the generative source of our primal sense of aliveness and of our primal capacity for sense-making' (1999: 132).

Without movement (for example, the micro-movement of the ear drum as it receives sound waves, our proprioceptor and interoceptors' accumulation of knowledge of physical feeling and the body in space, or even how our eyeballs must continually make minute movements to gather visual information), we have no sensory information with which to create consciousness—or, as Sheets-Johnstone puts it above, 'capacity for sense-making.' More clearly, 'perception is interlaced with movement and to the point where it is impossible to separate out where perception begins and movement ends or where movement begins and perception ends; the one informs the other' (Sheets-Johnstone 1981: 402).

With this awareness, cognitive science began aligning itself with elements of existential phenomenology. Though computational models are still widely recognized, since the 1970s, cognitive scientists have begun to realize that cognition *is* contextual—of the mind, but also of the body and beyond. The idea that movement—and embodiment—is central to cognition is revolutionary. The shift from thinking of brains as computational systems to situating them in an integrated, dynamic relationship with our physicality is a major shift in scientists' understanding of cognition. The terminology used to distinguish this integrated approach from the dualistic empiricism of traditional cognitive science is usually *embodied cognition* or *distributed cognition*.

2.4.1 Embodied Cognition

Neurophenomenologist Francisco Varela championed this anti-reductionist perspective on embodiment, arguing that the mind is fundamentally inseparable from subjective experience, its biological embodiment, and its situated context within the world. It was Varela who coined the term *embodied cognition* to include both the biological and contextual body in cognitive processing (Varela, Thompson and Rosch 1991, Batson and Wilson 2014: 42). Shapiro refers to the text *The Embodied Mind,* which Varela co-authored with Thompson and Rosch (1991), as an 'urtext' within embodied cognition (Shapiro 2011: 52). In it, Varela, Thompson and Rosch reject traditional computationalist views of cognition and put forth an argument for cognition as 'embodied action:'

> By using the term *embodied* we mean to highlight two points: first that cognition depends upon the kinds of experience that come from having a body with various sensorimotor capacities, and second, that these individual sensorimotor capacities are themselves embedded in a more

> encompassing biological, psychological, and cultural context. By using the term *action* we mean to emphasize once again that sensory and motor processes, perception and action, are fundamentally inseparable in lived cognition. (1991: 172-173)

In this theory, as an organism moves through its environment, its movement creates new perceptions which then reveal more opportunities for action, subsequently creating more movement and new perceptions again. This loop can continue ad infinitum for the duration of an organism's life, thus shaping its experience of being in the world from birth to death. Additionally, the perceptual systems of an organism will shape what types of motion, perception, and opportunities will arise—for instance, a basil leaf viewed by a slug would afford different perceptions (of texture, perspective, et cetera) and opportunities (consumption, pathway, and so on) than the same leaf as viewed by, say, a mosquito—who would be repelled by the essential oils contained in that leaf (thus not realizing a consumptive opportunity) and may additionally not be afforded the same sense of texture or perspective. Alternatively, the perceptual systems of a chameleon, whose eyes are mounted in twin canonical turrets and have the ability to move independently of each other—thus offering a 360-degree field of vision—would vastly change the opportunity affordance when compared to the 'same' perspective taken by a human subject. The affordance of action is directly dependent on an organism's perception. Thus, the perception-action loop, as self-directed and self-shaping, means that perception and action are coupled—as Varela, Thompson, and Rosch state above, 'fundamentally inseparable in lived cognition.'

As Gibbs states, 'Although psychologists and others readily admit that much knowledge is derived from sensory perception, few scholars, until recently, have emphasized the importance of kinesthetic action in theoretical accounts' of cognition (2005: 3). He posits that 'the traditional disembodied view of mind is mistaken, because human cognition is fundamentally shaped by embodied experience,' and describes ways in which 'many aspects of cognition are grounded in embodiment, especially in terms of the phenomenological experience of our bodies in action' (ibid). What Gibbs references is the coming together of cognitive psychology and phenomenological philosophy theories—an intermingling that has led to a wider acceptance of phenomenology within cognition, causing the shift in direction for the cognitive science field.

Since Varela's initial introduction of embodied cognition, the field has grown and is still developing. In *The Stanford Encyclopedia of Philosophy*'s section on embodied cognition, Wilson and Foglia (2011) label the past and present forms of cognition: 'cognition in the narrow sense' is this historically limited scope, and is opposed to a more wide-reaching perspective they term 'cognition in the broad sense.' They maintain that embodied cognition research works 'represent a serious alternative to the investigation of cognitive phenomena' and 'challenge dominant views of the mind, such as the computational and representational theories of mind, at the heart of traditional cognitive science' (ibid.). Furthermore, 'embodied cognitive science aims to understand the full range of perceptual, cognitive, and motor capacities we possess, cognition in the broad sense, as capacities that are dependent upon features of the physical body' (Wilson and Foglia 2011).

Research in embodied cognition, because of the influence of phenomenological subjectivity (unlike earlier cognitive models), contends that the brain is an integrated dynamic system and is responsive to the moment-by-moment embodied dynamics of our lives. As Gibbs (2005: 9-10) further highlights,

> Understanding embodied experience is not simply a matter of physiology or kinesiology (i.e., the body as object), but demands recognition of how people dynamically move in the physical/cultural world (i.e. the body experienced from a first-person, phenomenological perspective). The mind (its images, thoughts, representations) is created from ideas that are closely related to brain representations of the body and to the body's continued activities in the real world.

Embodied cognition, however, like many emergent and emerging fields, lacks distinction—i.e., the field is still defining itself, and terminology is shared and used with different interpretations of its scope. As such, it, too, houses several strands of thought—what cognitive scientist and philosopher Lawrence Shapiro identifies as 'the remarkable multiplicity of ideas [around the definition of *embodiment*] that have been hailed in the name of embodied cognition' (2011: 51). Each of these strands falls under Wilson and Foglia's (2011) broad sense of cognition inclusive of the para-mental, which is termed *situated cognition* (Robbins and Aydede 2012, Wilson and Foglia 2011).

Situated cognition includes embedded, embodied, and extended cognition. Though the terms have similarities, are closely related, and may often be mistaken as interchangeable outside of the cognitive science communities, embodied cognition is not the same as embedded cognition nor as extended cognition. Embodied cognition, as emphasized above, includes the body beyond

the brain. Embedded cognition distributes cognition both mentally and within the environment beyond the body—like how a chef can offload some of the cognitive processing, say for instance the order of ingredients to be added, of cooking a particular dish by laying out his or her kitchen in a particular manner. The thesis of extended cognition is the claim that cognitive systems themselves extend beyond the boundary of the individual organism. In this view, features of an agent's physical, social, and cultural environment can do more than distribute cognitive processing: they may well partially constitute that agent's cognitive system (Wilson and Foglia 2011). In the theory of extended cognition, humans (and other organisms, presumably) are not inseparable from the interpersonal and political environments that shape themselves and thus their cognitive processing and biases.

For the purpose of this research, I am going to focus on embodied cognition, as, although dancers may be responding to larger socio-cultural or environmental concerns, the body is the instrument with which dance is created and displayed. The body of a choreographer (who may be both choreographer and dancer) is both the object and subject of her art form; the body is also the immediate material in affordance to dancers and dancemakers as a tool for their enaction of creative cognition—i.e. the problem-solving that they engage in when meaning-making in a choreographic process or performance practice. It is entirely possible that once, through research such as this, the field has made a strong case for movement as a form of creative embodied cognition, these theories could extend outward into situated or extended cognition,[7] but that is beyond

[7] Indeed, some scholars already take this stance. See, for instance: Kirsh 2010, Kirsh

the current scope of this research, particularly when one recognizes the complexity of embodied cognition as a still-emergent field itself.

In this vein, the following could be read as a working definition of *embodied cognition* offered by Wilson and Foglia (2011):

> Cognition is embodied when it is deeply dependent upon features of the physical body of an agent, that is, when aspects of the agent's body beyond the brain play a significant causal or physically constitutive role in cognitive processing. […] Embodied cognitive science appeals to the idea that cognition deeply depends on aspects of the agent's body other than the brain. Without the involvement of the body in both sensing and acting, thoughts would be empty, and mental affairs would not exhibit the characteristics and properties they do.

Thus, in embodied cognition, researchers are not denying the role of the brain in executing higher-order processing, but maintaining that the brain is not the *only* corporeal actor facilitating these processes.

Shapiro identifies three strands of inquiry, or 'research programs,' that exist within embodied cognition. These, he terms *conceptualization*, *replacement*, and *constitution* (Shapiro 2011: 68). They can be delineated as I summarise below:

- Conceptualization: The hypothesis of conceptualization within cognitive science takes as precedent that an organism partitions its world into understandable chunks of information. In conceptualization, these portions are determined by the properties of its own body and sensory organs. This may be viewed as an example of the body having a causal role in cognition.

- Replacement: The hypothesis of replacement is a theory that abandons all computational representation within cognition. As Shapiro notes, 'those engaged in Replacement projects are convinced that the computational and representational tools that have for so long dominated standard cognitive science are in fact irremediably defective, and so must be abandoned in favour of new tools and approaches' (2011: 67).

2011, Kirsh 2014, Łucznik 2015, Muntanyola Saura 2011.

- Constitution: Projects in support of the hypothesis of constitution afford perhaps the most compromise in seeking to find a balance between traditional computationalist perspectives and newer embodied theories of cognition. 'The distinguishing feature of projects in support of the hypothesis of Constitution is a commitment to the idea that the constituents of the mind might comprise objects and properties apart from those found in the head. Those who endorse Constitution believe that in an important sense, but one which we must take pains to clarify, mental activity includes the brain, the body, and the world, or interactions among those things' (Shapiro 2011: 68). As is evident by its title, this is an example of the physical body having a constitutive role in cognition.

Though Shapiro identifies these as the three major research programs, or strands of inquiry, within embodied cognition, he is careful to emphasize that they are not mutually exclusive—research may or may not fit neatly into one of these 'boxes.'

2.4.2 Creativity

As higher order mental processes like attention, reasoning, decision-making, problem-solving, analysis, synthesis, evaluation, and so on combine to form the act of creative generation, creativity, as a research discipline unto itself (Isaksen and Murdoch 2008), is situated in the field of cognitive psychology.

Choreographing dance is a creative act, yet there has been relatively little research to understand creativity in dance (Press & Warburton 2007).[8] The existing research on creativity often lacks definitional rigour (Plucker, Beghetto,

[8] This is true even in arts-focused texts. For example, Winner's (1982) text *Invented Worlds: The Psychology of the Arts,* Sternberg's (1999) *Handbook of Creativity*, Runco's (2007) *Creativity Theories and Themes,* each make no mention of dance, while it is mentioned only in passing as a creative domain in Weisberg's (2006) *Creativity: Understanding Innovation in Problem-Solving, Science, Invention and the Arts* or Kaufman's (2016) *Creativity 101.* Even in an effort to create an 'interdisciplinary' overview, Sawyer's (2012) *Explaining Creativity* features art forms such as visual arts, writing, music, and theatre, but lacks dance entirely.

& Dow 2004), and, when considering dance, fails to examine cognitive processes involved in producing creative choreography.[9]

2.4.2.1 History

In *Creativity: Theories and Themes, Research, Development and Practice*, creativity theorist Mark Runco emphasizes that there are varied approaches to the study of creativity. He states, 'There are both cognitive universals and cognitive individual differences in creativity' (2007: 2), adding that most current research takes as its focus the nomothetic, or universal, basic processes of creativity. This is why the aforementioned definition within cognitive psychology of *creativity* is the creation and retention of useful, novel ideas that circumvent habitual responses (Amabile 1996, Campbell 1960, Koestler 1964). This definition defies discipline-specific categorisation. It involves processes of creation, selection, evaluation, rejection, and elaboration.

Historically, many theories of creativity as novelty and usefulness are grounded in Guilford's (1968) Structure of Intellect model, in which every mental task features three components: an operation, a content, and a product. In 1975, Guilford offered a model of creativity as a form of problem solving: Sternberg and Grigorenko (2000-2001: 310) note that in Guilford's 1975 model, through combinations of process, product, and content, creativity is localized in processes of divergent production.

[9] Press' (2002) *The Dancing Self: Creativity, Modern Dance, Self Psychology and Transformative Education* is one example. It explores personality traits, individual processes, and pedagogical approaches associated with creativity, but lacks a clear definition of *creativity* and often conflates creative engagement or creative process with the core concept of *creativity*.

Though Guilford's model has been influential in the development of the field, it has not been a major presence since the 1970s (Sternberg and Grigorenko 2000-2001). Perhaps most importantly, it gave rise to the concepts of convergent and divergent thinking. Divergent thinking is an approach to problem solving, where individuals seek responses that are useful, numerous, and varied instead of the convergent (one, single, or 'correct') answer. Divergent thinking tests are the most commonly used tests of creative potential and can measure a subject's fluency (or number of responses), originality (number of unusual responses) and flexibility (or the number of categories responses fall into).

Divergent thinking plays a role in most current creativity theories, such as theories that creativity involves analogical thinking (Welling in press, as cited in Runco 2007), wherein insights come from a change in how initial problems are interpreted or from an unconventional approach or representation; in cognitive science terminology, this is a *transposition* of a conceptual structure from an existing context into another context.[10] Still other creativity theories focus on divergence via combinatorial thinking, such as:

- Mednick's (1962) associated thinking theory, which claims that an original idea is not usually one's first idea,
- Koestler's (1964: 35) bisociation process, in which he claimed that the essence of creativity lies in: 'the perceiving of a situation or idea […] in two self-consistent but habitually incompatible frames of reference,'

[10] In the ICS framework, this may mean a transposition from one subsystem to another. I will elaborate more on transposition in Chapters 8 and 11 of this thesis.

- Finke et al.'s (Finke, Ward and Smith 1992) geneplore model, a two-stage (generative and exploratory) process, and
- the evolutionary approach taken by Campbell's (1960) theory of blind variation and selective retention (BVSR), later expanded upon by Simonton (i.e., Simonton 2011a), in which a wide range of responses are generated before selection of the most useful solution.

2.4.2.2 Testing

As previously mentioned, most creativity research maintains that not only novelty, but *usefulness* (which in some cases is referred to as 'appropriateness' or other synonyms [Mayer 1999]), is central to the definition of creativity. The generation of novel, but un-useful concepts is seemingly pointless. This perspective is evidenced in attempts to measure or predict creativity, which is demonstrated in responses to measurements of divergent thinking. When asked for uses of a brick, for example, a convergent-thinking answer may be 'to build a house,' while novel and useful answers may include 'as a door stop,' 'as a stepping-stool,' 'as a pie weight' or 'as a pestle or mortar'; whereas 'as a hat' would not be a useful solution to the problem and thus is not considered creative.

This is an actual example of the kind of activity one may be asked to complete in current psychometric testing of a subjects' creativity on a divergent thinking measure, specifically Guilford's (1968) alternative uses task, in which a subject's answers would be later scored for originality, fluency, flexibility, and elaboration.

The Guilford test is a widely-known measure, alongside other popular measures such as Wallach and Kogan's (1965) test where subjects come up with multiple items that share a commonality (i.e. have wheels, or make noise) and Torrance's creative thinking tests, which offer similar prompts for figural and verbal responses (Dow 2015). In the figurative Torrance items, one may be asked to name what an abstract shape is an image *of,* or complete a simple figure, or to find as many ways of incorporating a shape (i.e. a triangle) to create new images. In the verbal Torrance items, subjects respond to word-based exercises—for instance, listing as many consequences of the ability to fly as they can.

2.4.2.2.1 Torrance Tests

The Torrance Test of Creative Thinking (TTCT) is 'the most widely used measure of creativity' (Kim 2006: 3). However, according to Kyung-Hee Kim, 'Torrance neither concluded that his tests assess all dimensions of creativity, nor did he suggest that they should be used alone as a basis for decisions' regarding educational placements and the like (2006: 3). In Kim's perspective, creative motivation and skills are necessary, not just the creative ability measured by the TTCT. In fact, she states, 'The tests were not designed to simply measure creativity, but instead to serve as tools for its enhancement' (2006: 4). Though it includes divergent thinking as one element, similarly to the Guilford test, the TTCT measured fluency, flexibility, originality, and elaboration—all derived from a Structure of Intellect model of cognition. Today, the test has been re-designed, because Torrance was concerned that the norm-reference scoring was not measuring the breadth of creativity manifestations he had observed (Kim 2006:

5). It now measures fluency, originality, elaboration, abstractness of titles, and resistance to premature closure. Though some studies have shown that Torrance's creative index 'was the best predictor for adult creative achievement,' other researchers have criticized the test because it doesn't measure independent constructs and lacks discriminant validity (Kim 2006). Furthermore, some question whether the norms for originality, developed in 1998, are relevant for today. However, as Kim points out, the TTCT has 'provided a physical measure and groundwork for the idea that creative levels can be scaled and then increased through practice' (Kim 2006: 11). This means, in theory, that people can increase their creative aptitude—an especially auspicious implication for contemporary dance choreographers, who are under constant pressure to meet the field's increasing demands for novelty.

2.4.3 Choreographic Creativity

It also means creativity may be measured; however, these testing models are problematized when researching dance. One cognitive psychologist whose research has focused on the interactions between creativity, cognition, and dance practice is Catherine Stevens. In 'Moving Mind: the cognitive psychology of contemporary dance,' Stevens, Malloch, and McKechnie assert that, 'The study of creative behaviour, such as that found in dance, presents a challenge to the experimental cognitive psychologist as the underlying cognitive processes of creativity and performance are notoriously difficult to capture in a controlled experimental setting' (2001: 55), such as those where such testing might take place. They take as a precept that contemporary dance's movement vocabulary,

form, and structures are the bodily expression of mental processes in space and time. As such, they note that in rehearsal processes, ideas are shared 'in both words and movement' (ibid.).

Stevens, Malloch, and McKechnie (2001) make a case for creativity in dance choreography resting as much in the connection of parts of a dance as in the movement generation for those sections, and again reiterate that the impulse, or source idea, in dance for creation is rarely verbal and more often, multimodal in nature. In translating the impulse into physical form, the authors claim choreographers are executing what they term *spatialisation of mind* using *choreographic cognition* (2001: 60). They support these claims by a thick description of the making of Anna Smith's *Red Rain* (1999), and outline the cognitive processes that underlie dance perception and appreciation. They claim, 'Dance phenomena challenge existing cognitive theories that assume only propositional or verbal forms of imagery and knowledge in human creativity and memory' (2001: 63).

Furthermore, Stevens later reiterates this issue as she applies the study of creativity and cognition to contemporary dance. In the chapter 'Trans-disciplinary Approaches to Research into Creation, Performance and Appreciation of Contemporary Dance,' Stevens (2005b) surveys current methods and future possibilities in developing theories of choreographic cognition. As in the previous article, here, Stevens' research centres on her concept of choreographic cognition, which 'refers to the cognitive and mental processes involved in constructing and refining movement-material with the intention of

creating a work of art' (2005b: 155). Throughout her research, Stevens identifies some of the larger issues with studying creativity, stating that, like most creative behaviour, the processes involved in choreographic cognition are 'hidden, rapid, multimodal, and non-verbal' (2005b: 155). She criticizes the assumption of the majority of theories in cognitive psychology which assume memory and cognition involve verbal and/or visual representation, the forms we see tested again and again in the measurements to which I just referred.

Stevens (2005b) argues that current cognitive creativity testing fails to address the complexities in dance by identifying aspects of choreographic cognition that are not addressed in traditional empirical investigations. She reiterates that cognitive processes are situated in the body in dance, claiming dance cognition is embodied knowledge (2005b: 158-159). Stevens asserts that 'creativity in contemporary dance is movement based and material evolves from experimentation and exploration in the medium itself' (2005b: 155-156). Inspiration is multimodal, thus the consideration of creativity in dance needs also be inclusive of various forms of mental information. Lastly, she is critical of previous studies of creativity because these 'theories of cognition derive from studies of static items and objects such as words or pictures,' even models developed in other performing arts realms, whereas dance is necessarily a dynamic form and is perceived multimodally through space, time, kinaesthetic and visual processes which are not covered by these theories (2005b: 156).

Most salient for my research interests is Stevens' repeated concern that in most creativity and cognition research, mental processes rely on language and static

visual representation, which is not the case in dance. I will echo, from my own experience as a choreographer and dancer, that often in the field of contemporary dance,[11] the movement *itself* is the language, and language that is used in choreographic practice often points to, rather than defines, the meaning inherent in the choreography. This is especially true in contemporary dance, where movement is not as 'set' as in codified techniques, where for example a *chassé* is both the term for a movement, and the movement itself. In contemporary dance, the name given to a movement or phrase is rarely so neatly encoded, and the 'naming' of the movement serves as a descriptor or shorthand for the 'definition' which is purely kinaesthetic, e.g. the semantic verbal representation lacks this one-to-one reference. This understanding of movement as a form of knowledge, meaning-making, or cognitive process in its own right is supported by Stevens' body of research, as well as in other research (for example, see deLahunta and Barnard 2005).

However none of Stevens' research addresses that there exist cognitive theories which may account for spatialisation of mind, or the physical processing which is choreographic cognition. In fact, it is arguable that Philip Barnard's Interacting

[11] *Contemporary* is a fluid term in dance studies internationally (Jordan 1992). Here especially I am differentiating the current post-postmodern, sometimes termed 'new' dance or 'experimental' contemporary dance, characterized by an emphasis on concept and inclusion of hybridity (particularly the incorporation of non-Western, popular, social, somatic, acrobatic, theatrical, etc. techniques alongside more traditional techniques); even these terms are used differently in my experience both in the US and UK—for example 'new' dance is more accepted as postmodern in the UK whereas some US artists use it to indicate their contemporary/experimental practice, as 'contemporary' in the US tends to bring associations of the competition circuit and commercial dance. I am *not* meaning what some might call 'contemporary' forms which are actually central- (e.g. Graham, Horton, Dunham) or late-modern (i.e. Cunningham, Limon) or pre-postmodern era forms existing prior to the 1960s swerve into postmodernism, that *are* codified, and thus (encoded semantically and) more in line with the traditional techniques they sought to break from than those that followed.

Cognitive Subsystems theory does just that, by rejecting cognitive theories that rely only on propositional meaning (or those that can only be expressed verbally and lend themselves to validation with evidence and/or logic) in favour of an inclusive model that allows for nonpropositional, or implicational meaning (Barnard 1985, Barnard and Teasdale 1991, Walz and Rapee 2003).

2.4.4 ICS

Interacting Cognitive Subsystems (ICS) is an information processing model of cognition used in mental imagery research with dancers in deLahunta, Clarke, and Barnard (2012), Kirsh et al. (2009), and May et al. (2011). In this model, developed by Philip Barnard (1985) nine sub-systems of mental architecture, which correspond to the range of forms of mental imagery, allow humans to innovate and complete actions concurrently (deLahunta, Clarke and Barnard 2012). It proposes three cognitive loops: spatialpraxic (relating to space and movement), morphonolexic (relating to sound and speech), and intuitive-emotional. Communication between the loops forms the cognitive basis for the generation of meaning.

As cognitive psychologist Jon May elaborates, ICS is 'a representational theory of mind in which processing is data driven, but the origin of that data can be internal to the mind as well as external' (2004: 2). Information can arise from sensory receptors or our internal deep (thinking/feeling) subsystems. He furthers, 'The approach models thought as the flow of information between nine different levels of mental representation, and includes a distinction between an

unselective diffuse awareness of all active levels of representation, and a selective focal awareness of a single topic of processing' (May 2004: 1). In ICS, diffuse awareness is the awareness we have for aspects of the world that we are not currently attending to, but nonetheless still 'feel' are there, and to which we could direct our attention if we wished. This diffuse awareness is when processing is distributed amongst many levels of representation.

The nine levels of representation correspond to nine sub-systems in the model, which operate on each representation's 'code.' These subsystems can be categorized into the three sensory systems (visual, acoustic, and body state), two effector systems (limb and articulatory [later called effector and articulatory]), and the four internal subsystems (implicational, object, propositional, and morphonolexical). The effector and sensory subsystems act through the world, with information either going out into or coming in from the external environment. The four internal subsystems are where awareness of structure really generates, with representation becoming more abstract as it becomes more 'central' in the below diagram (Fig. 1)—i.e. in the propositional and implicational systems. As May illustrates, the nine levels mean one 'thing' may simultaneously produce different forms of mental representation, including, 'sensory (acoustic, visual, and body state), structural (morphonolexical and object), meaningful (propositional and implicational), and effector (articulatory and limb)' (2004: 5).

Figure 1: The ICS Model (From Weber 2017, as modelled on figure from May & Barnard 2004). In this figure, black arrows signify 'abstractive' flow, white arrows denote 'elaborative' flow, and dashed arrows 'are indirect, because they represent information exchange mediated by changes in the body' (May & Barnard 2004: 295).

The ICS model is unique because it puts two non-sensory meaning-routes (namely propositional [or verbal and logical 'knowing' with the head] and implicational [instinctive, emotive—'knowing' with the 'heart']) into a larger framework of cognitive activity, or mental architecture, that includes other patterns of processing (May and Barnard 2004: 4). May elaborates, 'While the propositional representations can be easily verbalised, the sensory and implicational representations can only be verbalised via propositional representations. All representations are accessible, although implications and sensory representations are harder to express verbally' (2004: 1).

There is no central executive in this model (Barnard 1999), rather, it is a self-regulating system and therefore different than stage models of cognition. As

Batson and Wilson state, in embodied cognition, 'Movement depose the brain from a privileged position of being the chief executive officer toward foregrounding movement as vital in co-creating thought and action' (2014: 44). This lack of what cognitive psychologists would term 'a central executive' is a hallmark of the ICS model (Barnard 1999)—this is but one way in which the ICS theory may provide groundwork to support both the linkage between dance and cognition, as well as a rationale for the forms of embodied meaning-making that are specific to dancers and dancemakers.

Rather than regulation by a central executive, processing patterns occur between the nine subsystems in Figure 1 (above). In ICS, incoming information arrives at the input array of each subsystem and is copied to the image record (or working memory); this copying gives rise to awareness of the information, or perception. Simultaneously, each subsystem transforms the information derived from the input array and passes this output on to other subsystems. The phenomenology of our lived experience is congruent and multimodal, reflecting the flow of a coherent stream of information through the system.

Information flow occurs when tasks are well proceduralised and transformation processes can produce output easily, i.e. when our long-term memory matches the informational representation being received, those representations are processed in place of the live object more quickly. The focus of processing is working memory, where the immediate present and very recent past are being written to memory. If there are ambiguities or problems with the flow, then transformation processes can augment the input array by accessing the image

record and operating upon memory. This can act as a shortcut for a mental representation or schema, through signals associated with the representation from memory records filling in gaps in our recognition of the live stimulus. This is termed *buffered processing*. Buffering provides the process with an enriched view of the current moment; thus, directing our attention means coupling processing and our working memory, and can bring focal awareness, giving a particular representation much more detail and making it feel more present. However, only one level of representation can be in this buffered mode at a time because of the temporal constraints memory access imposes on the flow; but our focal awareness may oscillate and shift rapidly between representations.

May and Barnard (2004: 7) state that because there are distinctions between representation forms required for internal or external speech, we can 'address the issue of "accessibility" of awareness,' claiming that such accessibility 'is often conflated with reportability in a verbal form,' e.g. that although we are phenomenologically aware of something, without words for it, we do not have access to the experience—however, they maintain that the phenomenological awareness itself *is* access, even if it is not 'reportable' in words. That is, in ICS, there are two types of deep meaning, accessible even if not reportable in verbal form: we can be consciously aware of non-verbal or pre-verbal meaning, particularly at sensory or implicational levels—an element of the ICS model which provides explanation for the meaning made in movement, dance, and Somatics.

With an understanding of the ICS system, we can model informational flow of reportable *and* ineffable meaning. May and Barnard offer the example of wine tasting to illustrate the difficulty of transposing ineffable sensorial meaning into verbalisation:

> The ICS processing view is that the entirety of active representations are in diffuse awareness (and hence in the fringe), but that we are able to bring them in to focal awareness. Our difficulty in putting these focal experiences into words is a consequence of the absence of a direct processing route between them and the propositional level that controls verbalisation. In wine tasting, the gustatory and olfactory experience must be mediated by a transformation from the body state into an implicational representation, losing sensory detail and becoming highly schematic. These schemata may be of various forms of fruitiness or fermentation, leading to propositional accounts of gooseberries and blackcurrants, fungi and dung-heaps. The development of a wine expert's ability to produce highly differentiated and elaborate verbal taste descriptions corresponds to a strategy of buffering the implicational schema aroused by the wine, and the development of mappings from these schemas to propositions; the novice buffers the sensory representations and is able to report little more than whether they like it or not. (2004: 7)

Thus, expertise in ineffable, non-reportable meaning (as I will argue, in Somatics) occurs in the implicational system, and becomes shareable through mapping the transposition of this meaning through propositional and, in dance, effector/articulatory systems.

In sum, in the ICS model, everything is in diffuse attention, but we can focus our attention anywhere within the system's architecture. We can only focus our attention in one aspect or part of the architecture at a time, but we can rapidly go from one form of representation to the other. As experts, we retain more detail from the sensory systems into deeper processing, build more bridges between the systems, and can therefore 'fine tune' the transformation so that less data is

lost in the transference from one subsystem to another. When we are in 'nonverbal' space, it simply means there is no direct pathway from that representation to propositional level—not that there isn't meaning. This is represented on the visuals in Figure 1 by a lack of arrows pointing from body state to propositional but *not* a lack of arrows directly from body state to implicational.

2.5 Conclusion

This chapter has introduced the groundwork from relevant philosophy, literature, and historical trends in the discourses germane to my interdisciplinary study. My research questions whether, in the context of understanding creativity, these frameworks (of dance, Somatics, and cognitive psychology) confirm and support or challenge and complicate each other. Now, I will introduce the mixed-method design I used to determine the shared understandings of creativity in somatic practices, and how I interpret these communal themes as relating to the psychological discourse.

CHAPTER 3. METHODOLOGY

This chapter introduces the research methodology designed for this study and how it has shaped data collection, analysis, and the development of theory. First, reasoning for using mixed methods is given, followed by a discussion of the fundamental elements of the selected frameworks for data collection and analysis. I close with a discussion of reliability and validity in my design.

3.1 Mixed Methods Introduction

Previous literature (Batson, Quin and Wilson 2012, Grove, Stevens and McKechnie 2005, Houston and McGill 2013, Minton 2000, Stevens 2005b, Green 2007, to name a few) emphasizes the importance of continued research on how dance intersects with various fields, including Somatics. My research responds to this call by investigating intersections between psychology and dance.

Dance science is the field concerned with psychology as it relates to dance (among other aspects like biomechanics, anatomy, and physiology [IADMS 2015]), and aims to 'develop, implement, and disseminate scientific knowledge and evidence-based practice centred on the promotion and optimisation of health, well-being, and performance in dance' (NIDMS 2015), which makes it a fitting home for my topic of study. However, this research is distanced somewhat from the traditional medical models pervasive in dance science (Reed 2011: 9) and augments the more empirical creativity research, such as that found in the 'In the Dancer's Mind' project (an interdisciplinary and inter-institutional, longitudinal and cross-sectional psychological study on metacognition of mental imagery and its impact on creativity in dance, which

provided the funding for this doctoral research as mentioned previously). However, my research reflects both that project's and the dance science field's connections to psychology and recognises the project as the catalyst for rethinking the relationship between dance, psychology, and creativity. This thesis looks specifically at cognitive creativity in Somatics-based contemporary dance. It seeks to combine the fields of cognitive psychology, dance studies, and somatic practice in an interdisciplinary effort to create new knowledge of how these fields' understandings of creativity overlap with, challenge, or inform each other.

The philosopher Habermas (1996) categorizes knowledge production into three types: 1) technical knowledge where the intention is to predict (primarily in positivist and postpositivist research traditions); 2) interpretive, or practical, socio-cultural knowledge about interpersonal interaction where the intention is to understand (primarily in the cultural-hermeneutic sciences); and 3) an intersubjective, emancipatory, self-reflective knowledge where the intention is to change social patterns and/or overcome dogma and socio-political ideology (primarily in critical and psychoanalytic approaches). This research primarily deals with Habermas' second, interpretive, knowledge production as it aims to understand how creativity is identified, defined, and potentially enhanced (Kaufman 2016, Sternberg 1999) when somatic practices are applied to choreographic practice. Thus, I situate this research within interpretive and subjective frameworks (Habermas 1996, Berrol 2004).

Taken as a whole, this research will be not only interdisciplinary (by drawing on dance studies, psychology, and Somatics) but will utilise a mixed-methods approach. The reasons for this are manifold, including: the fact that dance is a complex, multimodal field; that any study incorporating both dance and science must necessarily draw on practices from both fields; and that existing research across cognition, dance studies, Somatics, and phenomenology suggest that multimodal or mixed methods are necessary to provide a complete perspective on what is happening in the real world (Batson, Quin and Wilson 2012, Batson and Wilson 2014, Ehrenberg 2015, Grove, Stevens and McKechnie 2005, Houston 2009, Mayoh and Onwuegbuzie 2015, Minton 2000, Sheets-Johnstone 2009, Stevens 2005b).

3.1.1 Mixed Methods: Calls from Dance Studies

Further, research into cognitive creativity in dance requires a mix of methods and theoretical underpinnings, because dance is an extremely complex field. Dance is a gestalt (Batson and Wilson 2014, Stevens, Malloch and McKechnie 2001, Stevens et al. 2003, Stevens 2005b)—a meaningful whole made up of many parts which exceed the mere sum of those parts, for, as phenomenologist Sondra Fraleigh illustrates, the dancer is both many selves and more-than-self (1987: 25-33) and the body is inseparable from the dance (1987: 31). Dance exists beyond individual experience, inhabiting places within and between a variety of perspectives, at the convergence of choreographer, dancer-as-choreographer's-object/instrument and dancer-as-subject/experiencer, and audience (also, through a witnessing perspective, re-presenting the dancer-as-object again). Even if one is to take the perspective solely from the experience of

a dancer—excluding choreographer or audience for the meantime—dance is a complex whole made of many parts, situated in a rich context: 'from the phenomenological perspective, the dancing body is not a material thing separate from dance, but a holistic gestalt manifesting as dance. The body-in-dance is a process of being in the world' (Batson and Wilson 2014: 58). Because of this extreme complexity, much of the current dance scholarship spans knowledge bases 'situated in a multiplicity of academic disciplines' (Batson, Quin and Wilson 2012: 184).

Reiterating this, Batson and Wilson state that because of the complexity of dance, 'dancemaking requires unique cognitive processes that demand deeper description and analysis' (2014: 22-23). As these researchers identify, dance's dynamic complexity means it is not easily measurable, and dance in particular calls for a multimodal, interdisciplinary, mixed methodology because of its multifaceted nature (Batson and Wilson 2014: 57). Dance researchers Houston and McGill (2013: 103-4) note, 'This is especially the case in a research field where quantitative results have dominated, but where, […] qualitative analysis has much to offer' like cognition. Just as the choreographic process is a practice of finding emergent meaning, so too research around creativity in choreographic practices needs to be open to discovering emergent information and theories through a variety of methodological approaches.

3.1.2 Mixed Methods: Calls from Somatics

Dance researcher Sally Gardner (1994: 34) notes that, in mainstream culture, the body is often subject to 'positivisitic and objectifying' representations. Batson and Schwartz (2007: 48) argue Somatics stands in opposition to these—even as they occur within dance—by using internal and sensorial approaches to encourage a subjective sense of embodiment and integration of mind and body. Somatics emphasises eschewing external authority in favour of individual autonomy (Eddy, Williamson and Weber 2014). Hanna (1970) further asserts that movement originating from Somatics' subjective standpoint is empowering to the individual, because of this opposition to positivistic, objectifying, third-person perspectives, which previous research (Weber 2009: 238) has noted are dichotomous and potentially disempowering.

Furthermore, 'rather than viewing the body as an instrument or vehicle, Somatics view[s] the body as contextual and fluid' (Batson and Wilson 2014: 7), thus necessitating a transdisciplinary focus that can reflect this fluidity and context-specific meaning-making, as opposed to experimentation occurring outside the naturalistic environment. As mentioned previously, the fluid and emergent nature of choreography requires an emergent research design; similarly, Somatics researchers Jill Green and Sue Stinson (1999) suggest that the research itself becomes an emergent, expressive art form when dealing with diverse research questions in dance. They compare the researcher to a choreographer and suggest both have to consider 'emerging patterns and meanings and [be open] to forms that are appropriate to them' (1999: 95).

As noted in Chapter 2, the individualist, subjective nature of somatic practices is ontologically distinct from third-person experimental perspectives. Traditional empirical and experimental analyses which take this external position to study large samples and identify trends, while perhaps helpful in validating efficacy, necessarily neglect the richness of individual experience. And because Somatics adheres to a subjective ontology, the methods used to research it are largely qualitative, stemming from postpositivist, interpretive, and constructivist epistemologies, rather than traditional logical and positivist frameworks. Thus, research in Somatics has fallen on the side of phenomenological paradigms in the long-standing debate about how to best conduct research that Patton (1990) identifies.

However, though I take a qualitative approach, the exchanges espoused in my research between dance studies, cognitive psychology, and Somatics enable examining the processes involved in generating creative dance choreography from a fluid, emergent design featuring a range of perspectives—both scientific and somatic. As Batson, Quin, and Wilson (2012: 184) highlight, methodologies combining third-person objectivity with first-person experience are challenging but have advanced understandings of embodiment and human movement systems, and the integration of science and Somatics offers opportunities to integrate theory and practice. They claim, 'In order to further knowledge and understanding of the totality of dance process and performance, the integration of both dance science and [S]omatics, the authors advocate a both/and approach' (2012: 184).

3.1.3 Mixed Methods: Calls from Psychology

Furthermore, calls for mixed methods abound in cognition research. As creativity researcher Richard Sawyer states:

> the main threads of creativity research within psychology have all been individualistic: cognitive science attempts to model creativity as analogical thinking; personality trait research, such as metrics to measure 'divergent thinking' or 'stylistic preferences;' cognitive attempts to identify the stages of the creative process. All of these approaches are individualistic and reductionist. (1999: 455)

As Sawyer points out, previous positivist research models clash with central tenets in Somatics and dance; or, as Batson and Wilson reiterate, 'Scientific rhetoric seemed inflexible and reductionist: quantifiable models failed to capture implicit processes and spatiotemporal dynamics' (2014: 8). Thus this research requires the perspective of an investigator who is versed in both the scientific rhetoric and approaches as well as phenomenological/reflective methodologies; as Batson and Wilson claim, science needs dance just as much as dance needs science to approximate a complete, multifaceted understanding (2014: 20).

As psychologists Robbins and Aydede note, embodied cognition views appear 'with increasing frequency in the literature on phenomenal consciousness' (2012: 7). However, as the originators of the term *embodied cognition* point out, though phenomenology allows for an 'examination of experience' (Varela, Thompson and Rosch 1991: 15), it also neglects embodied aspects and thus remains purely theoretical (ibid: 17, 19). They call for a method that 'can provide an examination of human experience in both its reflective and its immediate, lived aspects' (ibid: 21), and thus I include phenomenological reflections and my own immediate lived experiences in my design. Further, this

dialogue between phenomenology and science is not a one-sided phenomenon, for, while science has been introducing phenomenological concepts, phenomenologists also turn to science for grounding phenomena. Ultimately, 'both methodologies are necessary to provide us with a more holistic understanding of a participant's experience' (Batson, Quin and Wilson 2012: 187).

The complexity of dance necessitates a bi-directional design for the methodology, one where neither dance/Somatics nor science/psychology takes analytical primacy, to reflect the multifaceted experiences of dancemaking. In drawing on multiple frameworks for data collection and analysis and then connecting findings to cognitive psychological perspectives and theory development, this research aims to answer the questions about creativity in Somatics-based choreography while honouring the theoretical rigour of science and somatic paradigms. It offers one response to provocations from Sheets-Johnstone (2009, 1981) and Batson and Wilson: 'How can that embodied cognitive experience be captured in non-dualistic ways? […] The vocabulary should at the very least, preserve its unique integrity as a non-reductionist reality of the unity of body, brain and thinking.' (2014: 23). This same call for non-reductionist mixed methods is found in previous research into cognition in choreography, as May et al. (2011) conclude their two-part study by emphasizing the need to explore connections between subjective and objective perspectives. As this research aims to do precisely this connection-building, it is also an opportunity for research to link first-person data to third-person-based

scientific constructs, as requested in deLahunta Clarke, and Barnard (2012: 249).

3.1.4 Mixed Methods: The Need for Dual Competencies

Like Batson, Quin, and Wilson (2012), I believe that the both/and approach is the most comprehensive and best-suited for researching cognition in dance and Somatics. As psychologists Robbins and Aydede assert, phenomenal consciousness is 'arguably the last bastion of Cartesian internalism,' thus methods ought to go beyond phenomenology and consider cognitive psychological approaches addressing the embodied perspective on the mind if they are to be aligned with Somatics' rejection of the Cartesian mind-body split (2012: 7). However, a mixed-methods approach is not without its dilemmas: as Batson, Quin, and Wilson claim,

> Despite successful attempts at convergence between dance science and [S]omatics, problems remain in integrating the pragmatic field of [S]omatics with the theoretical paradigms of dance science. For example, somatic experiences are not often explicitly grounded in scientific constructs, and dance science experiments often exclude somatic principles and experiences. (2012: 185)

It is important, then, to mitigate these concerns through a purposefully integrated research methodology; the aim in my design is to link the scientific constructs of embodied cognition and Interacting Cognitive Subsystems model to the subjective, phenomenological meaning-making that happens in Somatics-based choreography. Indeed, Batson, Quin, and Wilson are among many who call for an integration of the qualitative phenomenological methods typical to Somatics with the (often quantitative) empirical methods in dance science. For example, philosopher Maxine Sheets-Johnstone argues that cognitive science

ought to include individual experience as movement underpins action and thought, the basic elements of cognition (Sheets-Johnstone 1981).

However, it is essential that researchers undertaking a mixed-methods approach to interdisciplinary studies have dual competencies within the fields that they are investigating, so that the rigour and integral values of each discipline is upheld. Part of the need for this comes from the necessity of a shared, non-dualistic language, because 'this is a baseline to truly building a body of valid research that evades dualistic concepts of mind and body' (Batson and Wilson 2014: 23). In an investigation of language in creative processes, interdisciplinary researcher Scott deLahunta (2015) also emphasises the importance of not getting 'stuck' in the rhetoric and jargon of any one approach, so that hybrid emergent meaning may come forth that represents a merging of the disciplines. As my experience lies within dance, Somatics, and psychology, and my methods span across disciplines, both the language and methods used in this study are combined, allowing such a shared meaning to emerge from this meeting and melding.

3.2 Methodological Concerns: Data Collection and Analysis

As illustrated above, literature from dance, Somatics, and psychology calls for interdisciplinary, mixed-method research. Calls from all three approaches insist that the multimodality of dance (Weber 2017) necessitates multimodal research designs. Unlike some other art forms, dance encompasses many aspects both internal (i.e. kinaesthesia, affect, somatic experience, etc.) and external (i.e.

rhythm, percussion, visual aesthetics, temporality, spatial dynamics, vocalisation and the spoken word, and more). Multi-sensory, multimodal exploration is how meaning is created and new movement generated (deLahunta, Barnard, and McGregor 2009). 'A methodologically diverse way of researching is fundamental to capture the important aspects of a multifaceted activity, such as dance,' note mixed-methods dance researchers Houston and McGill (2013: 103). As noted in Chapter 2, researchers in choreographic cognition also stress the multimodality of dance and need for converging methods (Stevens, Malloch, & McKechnie 2001: 157-158, Stevens et al. 2003, Stevens 2005b). Thus, my research takes not only an interdisciplinary and mixed-method, but also multimodal, approach to data collection and analysis.

3.2.1 Data Collection

Data collection was the most multimodal aspect, as I analysed data that was physical/kinaesthetic, spoken, written, and visual. My data collection took three forms: firstly, I interviewed three artists about their somatic and choreographic practices. Secondly, when possible, I participated in workshops given by the artists, and collected recordings of the workshops and field notes of my experience and own observations of the artists themselves and other participants in the workshops. Lastly, I examined the artist-practitioners' own writing in the published literature they have produced on Somatics and their creative practice. I will now briefly discuss the methodologies informing each of these data collection methods.

3.2.1.1 Phenomenology: Qualitative Interviews

Because, in Somatics, as in phenomenology, the body is the primary source of knowing—and because our bodies are individualistic and idiosyncratic—it follows that the meaning made is subjective. Furthermore, 'it is suggested that, in the area of [S]omatics and dance, phenomenological experience cannot be ignored, as the premise of somatic practice is the actual experience of those involved'—a highly subjective experience indeed (Reed 2011: 12). Probert names subjectivity as a defining characteristic of phenomenological research and claims that '*description*, in participants' own words, [is] the best way to understand an object's reality' (2006: 3, emphasis original). The phenomenological approach is marked by 'the assumption that there is an essence or essences to shared experience' (Patton 1990: 70-71). These essences are core meanings derived through mutual understandings and 'can be uncovered through data coding and analysis' (Probert 2006:3). To uncover these shared understandings, phenomenological methods include 'qualitative and naturalistic approaches to inductively and holistically understand human experience in context specific settings' (1990: 37).

Therefore, my research aimed to capture the phenomenological experience of 'those involved' (e.g. choreographers who are also Somatics practitioners) in the context of Somatics-based creative processes in dance. In this research, I sought the essence, or shared understanding, of *creativity* in Somatics practitioners' perspectives. To do so, I developed this understanding, through reflection on my own experience and experts' accounts of their lived experiences, drawing on

phenomenological frameworks in open-ended qualitative interviews with the three artists.[12]

In these interviews, I disclosed my own relevant history (as choreographer and Somatic Movement Educator), not only to boost transparency but also to develop a rapport that may have allowed the artists to speak more openly or candidly about their own experience. The semi-structured interviews were designed to elicit description from the artists about their practice and their thoughts on creativity in dancemaking. This follows in the tradition that Baker, Wuest, and Stern suggest—namely that, 'phenomenological inquiry, being concerned with the psychological phenomena of lived experience, has only one legitimate source of data: informants who have lived the reality being investigated' (1992: 1357). These interviews were later examined as individual accounts for themes, and also compared across-subjects for the 'essence' of creativity, as it is understood in somatic practices.

3.2.1.2 Ethnography: Participant Observation

This research is also ethnographic in nature, as I am a Registered Somatic Movement Educator (RSME) and choreographer who is serving as both a reflective participant observer and analyst in Somatic Movement Education settings, an environment in which I have been embedded as both participant and practitioner since undertaking a Master's degree in Dance and Somatic Practices in 2008 at the University of Central Lancashire. Thus, I have been personally

[12] For details on the timing and location of the interviews, please see Appendix 3.

involved within the Somatics community being researched and intend to continue to pursue this professional connection to the object of research. This embedded-ness of the researcher is essential in ethnographic research. Ethnography has often been used in dance studies, for, as Deidre Sklar notes, there is 'no other way to approach the felt dimensions of movement experience than through the researcher's own body' (2000: 71). Thus a dance ethnography is 'necessarily grounded in the body and the body's experience,' which is especially important when attempting to research somatic practices that are inherently sourced in the body (Sklar 1991: 6).

Furthermore, ethnography provides the framework for participant observation, a 'core activity in ethnographic fieldwork' (Emerson, Fretz and Shaw 2007: 353) where the researcher is both participating in and observing/analysing the happenings within the community—in this instance, I took on this role within Somatics workshops aimed at dancers and choreographers.[13] Sklar notes, 'Data gathered through participant observation is traditionally collected in the form of written fieldnotes and/or audio/video recordings, in the understanding of embodied dance research however, also as "bodily memory"' (2000: 75), each of which comprised a part of my data set. Ethnography also provides the framework for the analysis of other participants' experiences (and thus, subsequently, the choreographers themselves) through the triangulation of data of participant comments, observed movement, and interaction (similar to methodology in Hammersley 1996, as cited in—and as well as in—Houston and

[13] For a full list of workshops, please see Appendix 3.

McGill 2013), which also informed the collection and analysis of my field notes, recordings, and reflections.

3.2.1.3 Literature Sampling and Textual Analysis

A final element for my data collection includes reviewing literature. I collected all published writing by the three artists, including books, journal articles, interviews, book chapters, and a doctoral thesis.[14] I then commenced close reading to question whether themes emerging from their spoken reflections in interviews and workshops also appeared in those texts. Close reading, a type of literary analysis, is a formal discipline of examining a text in-depth. In close reading, a text is explained through a process of reading and re-reading (with special attention to structure, syntax, imagery, etc), annotating, noticing patterns, and interpreting the patterns to discover a focus which helps to explain the work (Barry 2002). Researchers seek to discover why words were chosen, how they contribute to themes of the work, and how they interact with each other. Though I was not reading to 'explain' the texts themselves, I used close reading methods to identify data relevant to my research focus of creativity to include in my thematic analysis. Consistent with my analysis of the interview transcriptions and field notes from workshops, I took an interpretive (rather than semantic) approach to close reading the artists' works, coding each document for instances of text related to the emergent themes which then became data items included in my larger, multimodal analysis.

[14] For a full list of published works consulted, see Appendix 4.

3.2.2 Data Analysis

From this large body of data, I undertook a process of analysis which also combined multiple methodologies. Because my analysis was concurrent with data collection, it drew on grounded theory approaches. Further, because it sought shared understandings of creativity in Somatics-based choreography, I identified themes across the data corpus, drawing on thematic analysis.

3.2.2.1 Grounded Theory

Because this research featured an emergent design, grounded theory is an appropriate inclusion in my mixed-method approach, as it provides a basis for the discovery and development of themes which are flexible and malleable, informed by the research as it progresses. Grounded theory is an interpretive paradigm first developed by Glaser and Strauss and later furthered to include constructivist thinking as researchers began to question their place within the texts they produced and their relationship with participants (Birks and Mills 2015, Probert 2006). It has provided a systematic means of discovering 'what is going on' in the absence of clear theory (Probert 2006: 5). Probert identifies the fundamental elements of grounded theory as:

- entering the research setting without a pre-conceived hypothesis
- collecting and analysing data concurrently
- constantly comparative [sic] the emerging data with the data already collected, to identify similarities or differences
- theoretical sampling to fine-tune data collection procedures
- the use of coding, categorising, and 'memoing' (i.e., notes written for the researcher's own use) in order to document the emerging 'themes' (i.e., key variables and patterns in the data), interrelationships, and theoretical propositions
- using a review of literature as one element of data collation

- formation of a 'theory' (i.e., a conceptual model which explains the findings in an abstracted format, thus offering a broader theoretical understanding of the phenomena). (2006: 5)

Whereas Birks and Mills (2015: 9) cite the following as

> a set of essential grounded theory methods: initial coding and categorization of data; concurrent data generation or collection and analysis; writing memos; theoretical sampling; constant comparative analysis using inductive and abductive logic; theoretical sensitivity; intermediate coding; selecting a core category; theoretical saturation; and theoretical integration.

These compilations share fundamental principles of the 'double hermeneutic' spiral that is typical in social science research, wherein the object of research (or topic being researched) and the subject of research (the researcher in his or her context) concurrently produce meaning as they inform each other (Brogden 2010). Additionally, the overlaps in these sets illustrate how, in grounded research, the data is collected and analysed simultaneously; coding and categorising the data allows the emergent themes to drive the development (and re-development) of theory.

As Birks and Mills state, grounded theory distinguishes itself from other methods because data is sourced via an 'initially purposive sample' and then the initial sample is coded before further data is added; concurrent data collection and analysis is its primary characteristic (2015: 10-11). This analysis originally generated theory around how creativity is understood based on the information given in interviews with participants. This understanding was continually revised as more participants and data sources were included, and original discussions were re-visited in follow-up contact with participants and in peer debriefing. This process exemplifies 'the constant comparative analysis of

categories to categories leading to theoretical integration,' i.e. making meaning via inductive reasoning, around how innovative choreography is created from somatic practices (Birks and Mills 2015: 11). Furthermore, the use of semi-structured interviews has been identified as a way to develop an inductive grounded theory in previous research in dance (Houston and McGill 2013).

Grounded theory is a method that combines inductive with abductive reasoning. Further to my inductive analysis, the generation of theory in my research through connecting dance studies and research in Somatics with cognitive psychological philosophy demonstrates abductive reasoning, in that it defies conventions of both fields by reaching beyond a single paradigm. It therefore represents 'a cerebral process, an intellectual act, a mental leap, that brings together things which one had never associated with one another: A cognitive logic of discovery' (Reichertz, 2007: 220, as cited in Birks and Mills 2015: 11).

In addition, grounded theory is another framework which offers support for the inclusion of my own experience as a Somatics-based choreographer: as Probert (2006: 5) emphasizes, in grounded theory, meanings are not made or read in isolation, but rather constructed and understood contextually and as a result of social participation. Thus, it is important for researchers to understand behaviour as participants do—an element easily achieved within discourse between professionals who share similar knowledge and experiences. In particular within grounded theory, individuals (researchers and participants) learn about shared interpretations, definitions, and understandings (Probert 2006: 5), which is essential as my research seeks to identify communal

perspectives on creativity in Somatics.

Thus, combining phenomenology with grounded theory supports the primacy of the lived body and lived experiences of the participants, but also allows a linkage beyond the individual into a social context—exactly what is needed if one is investigating somatic meaning-making within a particular group. Because I am interested in artists who are making work from their individual lived-bodies, yet attempting to identify a shared understanding about and approach to creativity, it is important to retain both the individual and the contextual aspects of those definitions and how they are taught, used, and understood.

Because I am linking dance and psychological disciplines, the initial data—the interviews—is necessarily informed by theory prior to collection. In strict grounded theory approaches, literature review would come after data collection, allowing emergent theory to be grounded in the data and the themes that crop up to drive the literature review. This, however, would make interdisciplinary connections difficult, at least in this instance. Because my initial research question asks whether the definitions already put forth within cognitive psychological research are fit for purpose within the dance-somatics community, ignoring existing definitions would prove unproductive. While I did not explicitly put forth these definitions, the semi-structured interview questions were constructed such that participants' definitions could be compared to (or contrasted with) psychological interpretations.

Consequently, my design was to enter the research with only my experiences to

guide the initial interview questions—not a fully-fledged, preconceived hypothesis—and to purposefully select highly qualified, prolific candidates, then collect and analyse data from interviews before approaching other sources (textual outputs, workshop observations, other participant interviews) with which to re-examine and fine-tune findings through constant comparison. Fieldwork and data collection were, therefore, accomplished in a series of sessions, punctuated with periodical data analysis.

3.2.2.2 Thematic Analysis

Combining all of these methods, I approached analysis inductively while searching for shared themes. As such, I also incorporated thematic analysis, which Braun and Clarke (2006) argue is a method in its own right. Thematic analysis requires a rich data set, deciding between semantic (deductive) or latent (inductive) approaches and realist or constructivist paradigms for analysis, coding of themes recurrent in a data set in occurrence with criteria for in- or exclusion, and reviewing and refining of themes for 'key-ness.' I found this approach particularly helpful, as the multimodal collection of data provided me with a rich, extensive data corpus (Braun & Clarke 2006: 79) to analyse. Thematic analysis across the interviews, observational and reflective field notes, field recordings and photographs,[15] books and chapters, journal articles, published interviews, and a doctoral thesis gave a clear sense of what shared thinking occurred within this extensive data corpus, and clear constraints as well as criteria for refining my initial coding and theme identification (because,

[15] For simplicity's sake, I have grouped and identified field notes, recordings, and images all as 'field notes' in my citations throughout this thesis.

as stated above—using elements of grounded theory meant ongoing revision of analysis as more data was collected).

A number of themes emerged from my process of transcription and interpretation; first, my preliminary analysis of the data corpus revealed an initial generation (Miles and Huberman 1994) of themes, and a data set[16] was identified. I undertook a reflexive theoretical analysis of this set to identify data extracts related to each theme. This was approached as an inductive, or latent, thematic analysis, because it became apparent to me that different words are used by different practitioners and across different fields to discuss the same underlying concepts—as such, a semantic analysis would be inadequate to address the aims of this research. The data was then organized into meaningful groups (Tuckett 2005) of repeated themes across each of the data items (interviews, readings, and participant observation).

I then re-analysed the codes to discern how different codes combined to form an overarching theme or themes, and subsequently further refined these into a set of main and sub-themes (Braun and Clarke 2006: 89-91). In accordance with grounded theory, the themes were re-examined and refined as more data was added in to the analysis. For instance, if an artist responded, during the process of analysis and writing-up of results, to amend or clarify their perspective on the interview transcriptions, themes and sub-themes were re-examined and refined to more accurately suit the data as it shifted; I also reanalysed themes upon the

[16] I distinguish between the terms *data corpus*, *data set*, *data item*, and *data extract* per Braun and Clarke (2006: 79). *Data set* meaning all the data from the corpus (or data collected) being used in analysis.

addition of each artists' data, particularly post interview or textual analysis inclusion. These themes are presented in Chapter 4 and discussed in depth in Chapters 5 through 9.

3.2.3 Theory Development

Grounded theory involves the formation of a 'theory,' i.e., a conceptual model which explains the findings in an abstracted format, thus offering a broader theoretical understanding of the phenomena (Probert 2006: 5), and this research analysis moves from the thematic analysis into theory development by comparing the findings to psychological discourse throughout the discussion of themes. To do so, after identifying themes from the data corpus, I referred back to scientific theories of creativity for comparison. This approach of combining the scientific theory with my own personal knowledge as a practitioner is supported because, as Fortin (2005: 6) suggests, 'insights and knowledge about dance come from the interpretation of empirical material complemented by researcher self-reflection about his/her political ideology and broad knowledge of the art form.'

To formulate a theory, after identifying themes, I utilised them to a develop a theoretical proposal of cognitive flow in Somatics-based choreographic practice framed within the ICS model. As mentioned previously, there are limitations inherent in traditional psychological methods and models. However, ICS is a radical departure from the traditional models of cognition. As discussed in Chapter 2, it lacks the central executive of most computational models and

attempts to theorize a macro model of cognition. It is unique in that elements of physical sensation are given equal weighting to mental computation, even in higher-order processing. As such, I argue that it is an embodied cognition model, and can help frame discussions of the types of embodied meaning-making in which dancers, choreographers, and Somatics practitioners engage. It can offer a language and theoretical grounding for discussions of these highly individualistic, subjective embodied cognitive processes. The theory I developed will be discussed more in-depth in Chapter 11.

3.3 Validity and Reliability

The concepts of validity and reliability are especially important in scientific study, and as such are a requirement for any research engaging with the field of psychology. In qualitative methodologies, reliability is often supported intrinsically to a study through cross-checks between multiple data sources and thick description and externally through peer debriefing checks, while validity is typically evidenced through a variety of methods, including: thick description, reflexivity, the search for disconfirming evidence, and peer debriefing (Cooper, Brandon, and Lindberg 1997; Gilchrist and Williams 1999). These tactics are well-established methods to ensure validity and reliability within the qualitative research paradigm (Leech and Onwuegbuzie 2008).

For this research, the validity of my perspective is substantiated in a number of ways. This research data was collected and analysed through my subjective experience of both my own somatic and choreographic practices, as well as my

interpretation of Reeve, Tufnell, and Olsen's perspectives. As such, this analysis serves as a validity check that my perspective is not mine alone, but points to more broadly shared understandings between choreographers working in the Somatics community. Internal validity is also ensured through purposive sampling and data triangulation. I triangulate each artist's perspective through multimodal data collection—e.g. through verbal interviews; recordings, observation of, and participation in their Somatic Movement Education workshops; and through their published writings. Further, to avoid introducing additional bias into the artists' interviews (something that might be termed 'demand characteristics,' 'participant bias,' or 'confirmation bias' in psychological research [Orne 2009]), I attempted to mitigate as much as possible such happenings by implementing a reflexivity and searching for disconfirming evidence throughout the full course of my research. Further, the emergent themes were tested against Patton's (1990) dual criteria for judging categories on their internal homogeneity and external heterogeneity—i.e. that data within themes should cohere together meaningfully, while themes should be discriminate, featuring clear and identifiable distinctions between different themes. My phenomenological 'bracketing' of the data from any pre-existing theories of what might emerge served as a final check for internal validity.

To ensure external validity, I affirmed my own understandings and my representation of the artist's perspectives by seeking confirmation from the artists themselves during the data collection, analysis, and post-analysis phases of this research; by debriefing participants on completion of the research; and also checking my understanding with peers in the field. A full peer debriefing

was unfeasible for this project due to the amounts of data collected; however, it could be argued that a) consultations with my supervisory team (who are both also Somatics practitioners and established dance studies specialists) and b) cross-checking the emergent theories from one artist's data with the other two artists each offer a form of peer-debriefing for these findings. This, in a sense, serves as a check for over- or under-emphasis of key themes and general data errors on my part as researcher.

3.3.1 Mini Peer-Debriefing

Additionally, I devised a bespoke condensed version of peer debriefing on a randomised subset of data items as an added check for vague descriptions, coding errors, and general bias on my part to further ensure validity and reliability, and to ensure the discrete-ness of the themes and the suitability of my data set coding. I undertook this mini-peer-debriefing thrice during the course of analysis. The first peer who was selected for this compressed debriefing was a 'non-dancer,'—an avid dance fan who has over a decade of engagement with the form as an audience member, but who does not study dance, even recreationally, and is a non-expert in either dance studies or Somatics. This peer's non-expert status was regarded as a form of avoiding bias that may come as a result of specialisation, rather than a disadvantage; peers with both dance studies and Somatics experience were sought for subsequent debriefings, to mitigate the effect that non-expert status may inflict upon the data due to potential misunderstandings, misconceptions around specialist terminology, and so on. The second peer was a Somatics researcher and expert who also has a long

history of practice and research within dance and Somatics contexts. The third peer was a dance professional and researcher with no experience of Somatics.

Each peer was given a random sample of 20 or more data items from the interview transcription coding and the titles of the current themes; they were then asked to categorise the data items within the existing themes (or indicate if they felt items did not fit any theme). The peer was given no recommendations as to categorisation and only 'dictionary definitions' of the terminology used as theme titling prior to and during their categorisation exercise. Subsequently to each debriefing (and in accordance with grounded theory approaches), I refined themes in terms of their related-ness, with particular changes made to creating sub-themes placed within a larger key theme.

3.4 Conclusion

As illustrated above, this thesis heeds the call within many fields for interdisciplinary research to address the complex questions raised by dance. My study not only takes an interdisciplinary focus that straddles the empirical traditions of cognitive psychological research but also the postpositivist frameworks in dance studies and Somatics research. My research attempts to capture, through a melding of multimodal data collection and pluri-disciplinary analysis methods, an understanding of how Somatics-based choreographers envision and encourage creativity. As Probert stated, 'resolving to stay faithfully within one tradition for purity's sake appear[s] to be no guarantee of rigour' if the method was ill-fitting the research purpose (2006: 5). The aim of conducting

this study through a crystallization of methods (Reed 2011) was to maintain the rigour yet create a method that was suited for the purposes of this investigation. Thus, through a series of interviews, participant observation of practices, and close analysis of published texts, this thesis draws together elements of ethnographic, close reading, and phenomenological collection methods, and grounded theory and thematic analyses, in order to allow first-person experiences of the artists and myself to inform the findings developed continuously throughout the research. As such, this research approach 'is not rooted in the superiority of one paradigm or approach over the other, but rather on contouring the model to best fit the needs' of this particular study (Berrol 2004: 220).

This chapter has covered the methods taken in this research and offers justification for the inclusion of elements from a range of methods. Now, I conclude the discussion of existing research and the methodology for this thesis and move on to analysis of the data I gathered. The chapters that follow (4-10) will outline the themes that emerged as a result of these methods and discuss them in depth. Chapter 4, next, will introduce the subjects of my analysis and the themes that emerged through these methods.

CHAPTER 4. ANALYSIS INTRODUCTION

4.1 Introduction

Chapters 4 through 10 of this thesis comprise an analysis of data from my study on shared thinking on creativity within Somatics contexts. As covered in Chapter 3, the mixed-methods investigation for this analysis draws on phenomenological inquiry, grounded theory, close reading, and ethnographic inquiry. I collected data from semi-structured interviews, participant observation in workshops, and the artists' published works to identify shared themes. Selected illustrative examples from the data will be provided in the following chapters (5-9), each of which is dedicated to covering one of these themes (or group of related themes) in depth. First though, in this chapter I will cover the study's inclusion criteria, provide some background information on the artists at the centre of this research, and discuss how I arrived at the themes.

4.2 Inclusion Criteria

That each artist has published writings was a defining confine in selecting participants, as was that each was a Somatics practitioner and educator, and a practicing artist choreographing performance work from a process is grounded in their somatic practice. Furthermore, to ensure a level of professional rigour, confines also included that the artists chosen had an established history of somatic practice, and that they were well-known within the international Somatics and dance studies communities—these latter two confines serve as testament to their expertise within the field. Accessibility to the artists through professional networks and their agreement to participate in the research—to

allow themselves to be interviewed and recorded, to give permission for recording and participation in their workshops, and the fact that they were offering open workshops during the time course of this doctoral study—was a final confining variable in selecting artists on whom to focus this research.

Three artists who met these requirements were asked, and agreed, to participate in this study: Andrea Olsen, Sandra Reeve, and Miranda Tufnell. Each of these artists comes from varying backgrounds, with different somatic practices underlying their artistry and education, and has experience teaching in a variety of settings. Each of the artists were, in fact, asked to elaborate on how they view their roles as artist, educator, researcher, and beyond, and whether any of these roles were primary; the responses varied between each of the participants, though they all acknowledged a hybridity, or multiplicity, of professional roles within themselves and noted that these roles were served in different contexts, and for different communities (i.e. in private practice, community dance settings, and higher education; with professional artists and novices; with professional dancers, dance students, and 'non-dancers'; and so on). This variety of experiences, Somatics modalities, and educational foci serves as yet another layer of validity checks for this research, indicating that the shared perspectives espoused by these experienced artists goes beyond an individual or modality-specific perspective, but rather has broader implications within the Somatics community (and Somatic Movement Education or Somatic Movement Dance Education as subsets of Somatics practiced in educational environments).[17]

[17] As opposed to therapeutic environments, as Somatics' application is in both realms, as differentiated by Hanna (1977). For discussions on Somatic Movement Dance Education,

4.3 Artists' Backgrounds

Here, I will introduce the artists whose perspectives I am comparing in my analysis. As noted previously, they come from diverse backgrounds, representing a range of Somatics modalities (from Alexander Technique, craniosacral therapy, *Move into Life*, Authentic Movement, embodied anatomy, et cetera) as well as contexts for their Somatic Movement Education (in higher education, professional dance, dance education, community, and client settings). Further, though I situate my research broadly within dance studies, only Olsen and Tufnell came to Somatics through a more traditional dance training background, as Reeve originally entered from the theatre discipline. Additionally, they also form an international pool—while she often works in the UK, Andrea Olsen is American, while Sandra Reeve lives in Dorset and Miranda Tufnell in the Cotswolds. Therefore, there are inherent cultural differences between the artists, and, especially because each of their work is each situated in and reflects the landscape/geography of their environments, this is naturally reflected in their practice. As mentioned earlier, I am interested in commonalities rather than differences, though it is important to remember that their diverse backgrounds bear on their responses to my inquiry and thus the perspectives analysed.

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please see Eddy 2009; Eddy, Williamson, and Weber 2014; ISMETA 2015; Williamson 2009.

4.3.1 Andrea Olsen

Andrea Olsen is an improvisational dancer, choreographer, and author who teaches and performs internationally. She holds an MFA in Dance Choreography from the University of Utah and identifies herself as an 'artist-educator' (Olsen 2015). Olsen has worked for the past 30 years as a Professor of Dance and the John Elder Professor of Environmental Studies at Middlebury College in Vermont (USA)—though, during the course of this research, she also lectured at the Middlebury Institute of International Studies in Monterey, California (USA) and as a guest faculty member at Mount Holyoke and Smith Colleges, in addition to her private practice (Five College Consortium 2014). Her teaching, writing, and performance work engage with experiential anatomy, ecology and the relationship between body and environment, and the discipline of Authentic Movement,[18] which is her main somatic practice. Since 1979, she has been practicing what, in an interview, she terms her 'three basic practices,' which include Authentic Movement (as informed by her training with Janet Adler), choreography, and experiential anatomy (as informed by her studies with Bonnie Bainbridge Cohen and her early graduate school professor Dr. John Wilson) (Olsen 2015). Additionally, Olsen (2015), who is a contributing editor for *Contact Quarterly,* has stated that she also views her writing practice as an additional fourth 'basic practice' and as a somatic practice—her writing work has taken the form of writing and editing for *Contact Quarterly* (Contact Quarterly 2014, Olsen 1993); publishing her books *The Place of Dance: A Somatic*

[18] Authentic Movement is a somatic practice created by Mary Starks Whitehouse and further defined and popularized by Janet Adler and Joan Chodorow. It is an improvisational, self-directed form in which movement is guided by inner impulses. It is grounded in a mover/witness dynamic (whether in group/leader or dyad settings), before an 'internal witness' is developed for solo practice (Adler 2002).

Guide to Dancing and Dance Making (2014), *Body and Earth: An Experiential Guide* (2002), and *Bodystories: A Guide to Experiential Anatomy* (2004); as well as her private journaling practice. The latter of these is a daily practice that she has done since she was a child and which she particularly views as a somatic practice (Olsen 2015).

Olsen comes from an artistic and agricultural family: she was raised in Illinois by her father who was a painter and professor of art, and her mother who was a primary school teacher and multi-instrumentalist musician (Olsen 2015, Stromstead 2002)—Olsen herself was a painting major in her undergraduate education. Both of her parents were farmers in addition to having a regular artistic practice, which, at an early age, instilled in Olsen a sense of rigour that has informed her understanding and approach to artistic and creative pursuits as that of a *process*. She states, 'There's a particular rigour to preparing, and for planting and for harvesting, and for all the weather changes and dramas that happen along the way. So I've always understood creativity as a process' (2015). This quotation is illustrative of how intertwined Olsen understands the dimensionality of the body with the Earth on a global level and environment at the local level to be.

Olsen (2015) states that she works from 'three tracks: as an artist, a scientist, and an educator' and elaborates in an interview by Tina Stromstead that her movement and education practices are grounded in 'a serious investigation of the body, studying the bones, muscles, the neurological connections, the evolutionary history' (Stromstead 2002: 13). In her making practice, Olsen

draws on (often site-specific) environmental improvisation, experiential anatomy, and Authentic Movement—which is an improvisational form 'based on the relationship between a mover and a witness, [as] the ground form' and eventually 'centred in the development of the inner witness, which is one way of understanding the development of consciousness' (Adler 2002: xvi).

Though these practices are largely improvisational, Olsen views her choreography as performative and 'set.' She (2015) states, 'my creative work is usually choreographic. My research work is often improvisational.' Olsen also views choreography as a somatic practice, particularly in an educational environment, as a way of 'deepening' and a way to 'meet form,' claiming: 'I like using choreography as a somatic practice for someone, like a student, who's trying to open into parts of themselves but can't quite' (2015). For her, both choreographic practice and Authentic Movement are ways of developing a heightened sensitivity and deepened awareness of our humanity, beyond our individual selves and in relation to the social, ecological, and metaphysical milieus. She notes:

> Authentic Movement points to a process of recognition between mover and witness, performer and audience. As we feel seen, we can see. As we feel heard, we can begin to hear others. As we develop an articulate and supportive inner witness, we can allow others their own experience of moving and being moved. The process of listening to the movement stories of our body encourages us to know ourselves and to bring this awareness to performance. (Olsen 1993: 53)

4.3.2 Sandra Reeve

Sandra Reeve is a self-described 'movement artist-researcher-educator-and-facilitator,' a senior registered dance movement psychotherapist (UKCP), and an

author (Reeve 2016a, Reeve 2016b). Reeve came to Somatics primarily through theatre, particularly the Growtoski method (Reeve 2016a). She holds a PhD in Performance Practice that examined the relationships between 'notions of self, body, environment, change, habit, and choice' at the University of Exeter, where she is also an Honorary Fellow, and where she has lectured in performance and ecology (Reeve 2016c). Reeve is also a qualified Shiatsu practitioner and offers creative supervision for various professionals, including psychotherapists, counsellors, and bodyworkers (Reeve 2016b). Reeve has published *Nine Ways of Seeing a Body* (Reeve 2011) and the edited collection *Ways of Being a Body: Body and Performance* (Reeve 2013) alongside several book chapters (Reeve 2014a, Reeve 2014b, Reeve 2015), and a journal article (Reeve 2018 in press).

Reeve is the creator of *Move into Life* (Reeve 2016d), which is her primary somatic practice. *Move into Life* is a Somatics modality that incorporates elements of movement, meditation (particularly Satipatthāna, [the Way of Mindfulness]), culture, and the environment; it is heavily influenced by Reeve's extensive period of studying with Suprapto Suryodarmo (Prapto). Prapto is a Javanese Theravadin Buddhist and movement artist who created the Padepokan Lemah Putih school in Java and is the originator of Joged Amerta (formerly Amerta Movement), which is a ritualistic improvisational art (Padepokan Lemah Putih 2016). *Joged Amerta* means 'moving dancing nectar of life,' and is intended to lessen the sense of identification, or individual self, through movement practice (Reeve 2016). It aims to help practitioners to 'blossom into one's full potential,' according to Reeve (2016), and eventually into enlightenment. It is 'more than an approach to improvisation; Joged Amerta is a practice cultivating

an attitude towards life,' state promotional materials for Prapto's 2016 workshop series (Padepokan Lemah Putih 2016). Reeve studied Joged Amerta with Prapto for 29 years, following their introduction in 1998 in Bristol (Reeve 2016b, Reeve 2016e). Prapto's training, which Reeve reports that he calls 'the dancing side of moving' or moving-dancing, is, as she states, 'a deeply somatic practice, in the sense that it is about all kinds of subjects becoming aware of what movement is from their innermost sense of being alive' (2016a). Reeve also notes a central aspect of Prapto's training is that one must develop their own work, which is how *Move into Life* originated and was established by Reeve in 1999.

Move into Life incorporates ecological principles as well as Buddhist mindfulness practice. Reeve's experience of living in Java for three years, of moving in different cultures, landscapes, and religious sites across Java, Australia, the USA, and Europe, as well as in her current home of West Dorset have helped to shape the development of her *Move into Life* training programme (Reeve 2016b). It is a 'foundation programme for embodiment' focused on giving participants a feeling of their 'many and changing selves-in-motion in the environment' (Reeve 2016e). The programme is designed as a cycle of workshops, in which participants are led to hone their observational skills toward movement in all aspects of their daily lives and in all environments (individual, social, cultural, ecological, and so on) within which they exist. A major focus of the work is to bring to the forefront a variety of 'lenses' through which to observe oneself and one's movement, and the structure of the foundational programme's workshop

cycle reflects this focus—these lenses (and workshop titles), in order from introductory to more advanced, are:

- *The Body Lens* (Body in Movement), which serves as an introduction to the work, and expands awareness of one's living body in movement, movement vocabulary, and witnessing skills;
- *The Communication Lens* (Cross-currents: Movement and Communication), which shifts its focus to interpersonal interactions and how communication habits and affect manifest through movement;
- *The Environmental/Perceptual Lens* (Environmental Movement), which centres on being a part of a larger context, through 'ecological perception' and 'environmental movement.' It is delivered in a number of outdoor locations and introduces Reeve's concepts of dynamics of *proportion in motion, transition/position, active/passive* and *point/line/angle*; and
- *The Autobiographical Lens* (Strata: Autobiographical Movement), which allows participants to 'work creatively with a personal theme' and transform habit through movement (Reeve 2016d).

Beyond the foundational programme, *Move into Life* also includes workshops in 'The Ecological Lens' called 'The Ecological Body,' which introduces ecological movement, focuses on participants finding their independent place within the broader 'scheme of things,' and directs participants to 'become [their] own guide' (Reeve 2016d) in an initiative that echoes Prapto's insistence that, as Reeve reports, 'different people would develop the different aspects of what he teaches according to their interests' (Reeve 2016a).

Move into Life is an experiential approach to bringing awareness to movement patterning and its situatedness and interrelatedness within broader contexts is elaborated more in depth theoretically in *Nine Ways of Seeing a Body* (2011). Here, Reeve outlines nine of the ways in which the body is situated and through which it may be viewed: the body as object, the body as subject, the phenomenological body, the somatic body, the contextual body, the interdependent body, the environmental body, the cultural body, and the ecological body.

Reeve's interest in movement and its parallel relationship to health has informed her professional career as well as her approach to Somatics and her choreographic practice, which tends toward 'small-scale ecological performances' of site-specific improvisation that draw directly upon her somatic practice (2011: 64). For her, somatic practices allow one to calibrate within one's life or artistic practice, and to develop an ability to be present within both one's inner life and the broader context or environment—to know one's inner self deeply yet still be able to engage with the outer world politically, socially, and culturally and to have choice about that engagement. Reeve has 'a lifelong commitment to the creative process,' (Reeve 2016b) and states that, 'Movement is my main source of creativity and my guide to health' (Reeve 2016b).

4.3.3 Miranda Tufnell

Miranda Tufnell has been working with the body, environment, and movement for over forty years, in 'a search to find a more embodied and connected way of

being in the world' (Tufnell 2017a: x). This search, for Tufnell, has led to the intertwining of work within dance and performance, health and bodywork, and writing. She says, 'I call myself a dance artist, a writer, and a therapeutic body worker. And they're three distinct strands which interconnect.' Tufnell claims that movement is primary, but the other forms lend support as 'means of investigation, means of going deeper' (2016a). She is a dancer and choreographer in addition to being a certified Alexander Technique teacher and craniosacral therapist, and has taught widely throughout the UK, including periods at Dartington College of Arts and Fellside Alexander School (Tufnell and Crickmay 2004: n.p., biography). She is also currently a Visiting Tutor for The University of Central Lancashire's Dance and Somatic Wellbeing Master's programme and former Visiting Professor in Performance at Coventry University (Tufnell 2016b).

Additionally, Tufnell works as a body therapist/movement educator independently, and has pioneered access to bodywork through the healthcare system in the UK as the first ever Alexander teacher to be employed through the NHS (Tufnell 2017a: vii-viii). She finds common threads through each of these avenues in a holistic approach to wellbeing and creativity, stating, 'My work has followed a passion to listen more deeply to the body's subtleties of movement, and to explore the human need to find a language that is beneath our words' (Tufnell 2016b).

This 'language beneath words' is evidenced in Tufnell's choreographic work, which, though grounded in movement and the body, is highly multidisciplinary.

Tufnell is perhaps most well-known as an artist and author, whose handbooks *Body Space Image: Notes Towards Improvisation and Performance* (1990) and *A Widening Field: Journeys in Body and Imagination* (2004), both co-authored with Chris Crickmay,[19] are widely taught internationally. Her path to postmodern and contemporary dance was circuitous, however. Following training in English at University College London and in dance at London School of Contemporary Dance, Tufnell relocated to study dance and movement in New York at the Cunningham Studio and with Nancy Topf and Simone Forti, among others (Tufnell 2016b). She returned to the UK in 1976, and became one of the pioneers of the postmodern dance movement in the UK, both in choreographing and performing her own work—'often in art galleries, making extensive use of light and sound environments' (Tufnell and Crickmay 1990: n.p., biography) as well as site-specific events, collaborating with visual artists—and as an early member of Rosemary Butcher's dance group.

Tufnell, like Olsen, grew up in a rural, artistic household: her parents were both writers, and their home was filled with books (Tufnell 2017a: x). And though she cherished the 'house of words,' she says, 'I felt strangely aware of wordless undercurrents, invisible movements that seemed to be speaking beneath whatever I sensed or perceived' (Tufnell 2017a: x). While studying for a degree in English, Tufnell impulsively auditioned for a dance school 'out of a headlong desire to reclaim a sense of connection […] to feel again and to emerge out of a numbness that had somehow enveloped [her]' (Tufnell 2017a: x). Though she

[19] For simplicity in the purpose of this thesis, when I directly quote these co-authored works in the body of my text, I will refer to Tufnell alone, as she was the artist participating in this research.

found traditional dance training (i.e. learning through imitation, learning a style) to be oppressive, she found a renewed interest as she discovered 'exploratory and improvisational approaches that drew on the subtleties of movement that arose from within the experiencing body' (Tufnell 2017a: xi), such as T'ai Chi, contact improvisation, and experiential anatomy coupled with release technique and the somatic practice of Alexander Technique (Tufnell 2016b). She called this effect 'a quantum shift' in her approach to the body and to dance (Tufnell 2017a: xi)—a shift which allowed her to hone her perception of the 'living architecture of the body and the myriad energies and movements at play within' (Tufnell 2017a: xi).

She states of her choreographic work, which started in the seventies, 'I began to make dances that I hoped would make visible something of this elusive, metamorphic nature of being alive. Making performances has been a way of excavating this territory' below the surface of everyday awareness (Tufnell 2017: xii). Her choreographic work was sourced, in the broadened artistic scope of the postmodern era, in 'everyday movement' (ibid.) such as walking, and featured interplay between light and shadow in collaboration with artists from other disciplines, including her long-time (and current) collaborator, Chris Crickmay, who is a visual artist and former architect. Even in these cross-arts collaborations, Tufnell's work was 'sourced in the sensing body and movement, and extended through drawing, painting, writing, and making' (Tufnell 2017a: xii). Like Olsen and Reeve, Tufnell's deep engagement with the body has also facilitated an awareness and appreciation for the ways in which the living body is intimately connected with its environment; she states that she became

awakened 'to the shifting parallel rhythms and tones in both land and body' (Tufnell 2017a: xiii).

Tufnell's interest in movement, health, and life became the basis for her efforts to bring Somatics into the healthcare system in the UK. She has recently published the book *When I Open My Eyes: Dance, Health, Imagination* (Tufnell 2017a), which chronicles the insights she has gained from her experience working for fourteen years in a GP surgery in rural Cumbria, as well as the perspectives of other artists, patients, and health practitioners on how arts practices can strengthen a person's resources and capacity for well-being. Tufnell's experience within the health sector began with her time as a Somatics practitioner in that GP surgery. Introducing Alexander Technique there, Tufnell realised that developing bodily awareness positively affected patients' well-being (Tufnell 2017a: xiii). She discovered, in this work in health settings, a way to form 'a bridge between [her] own creative work as a dance-maker and artist with the everyday health needs of [her] community,' and continues her work to facilitate creative spaces within healthcare, in particular through her development of the Knowing Body Network (Tufnell 2017a: xiii, xiv; Knowing Body Network 2016). Tufnell believes creativity is latent in everyone, and notes that creative practices 'open up new perspectives for [people]—restore a sense of connection and purpose in living […] a route to health in the full sense of the word' (Tufnell 2017a: xiii).

4.4 Emergent Themes and Their Relationships

4.4.1 Thematic Analysis

I undertook thematic analysis, a form of analysis used widely across disciplines in qualitative research (Braun and Clarke 2006), on the data collected from Olsen, Reeve, and Tufnell. The themes will be introduced in this chapter by name and brief description only, without examples given from the data sets, as they will be discussed in depth in subsequent chapters.

4.4.2 Arrival at the Emergent Themes

After a series of initial coding and analysis exercises, the following themes emerged as shared and/or repeated concepts. Themes that are listed below appeared multiple times throughout the data, and frequently appeared across data sets from more than one artist—for example, these concepts were talked about multiple times during the interview conversations.

1. Refining perception
2. Nonpropositional meaning
3. Presence/mindfulness
4. Writing/transposition
5. Defeat of habit/conditioning
6. Novelty
7. Agency/autonomy/choice
8. Safe environment/pedagogical elements
9. Balancing inner and outer
10. Embodied cognition

11. Usefulness
12. Connection
13. Generation/creation/giving form
14. Contact improvisation
15. Curiosity
16. Fixedness
17. Layers
18. Process/time
19. Wellness
20. Wholeness
21. The difference between education and practice

Concepts 14-21 (contact improvisation, curiosity, fixedness, layers, process/time, wellness, wholeness, and the difference between education and practice)—while they may be central to one or more practitioners' perspectives, were eventually subsumed into another category (i.e. the two categories were not regarded to be discriminant enough and lacked external heterogeneity) (Patton 1990) or were discarded. Discarding a repeated theme from the data was a result of two reasons. First, the repeated theme was deemed marginal to the aim of this research, supported by Braun and Clarks' insistence on 'keyness' as a reflection of 'whether [the theme] captures something important in relation to the overall research question' (2006: 82). Secondly, as a limiting constraint, it was determined only themes shared by *all three* artists would be retained in this analysis. Thus, themes 14-21 were discarded for this research; it is

recommended, in future research, to follow through on whether these themes may be shared by other somatic practitioner-artists.

After adding additional data (from participant observation and textual analysis) and exploration of the themes' identification and relation to each other (including the three peer debriefings), I developed a further refinement of themes into main key themes and sub-themes. A visual depiction of this categorisation is below (and in Appendix 1):

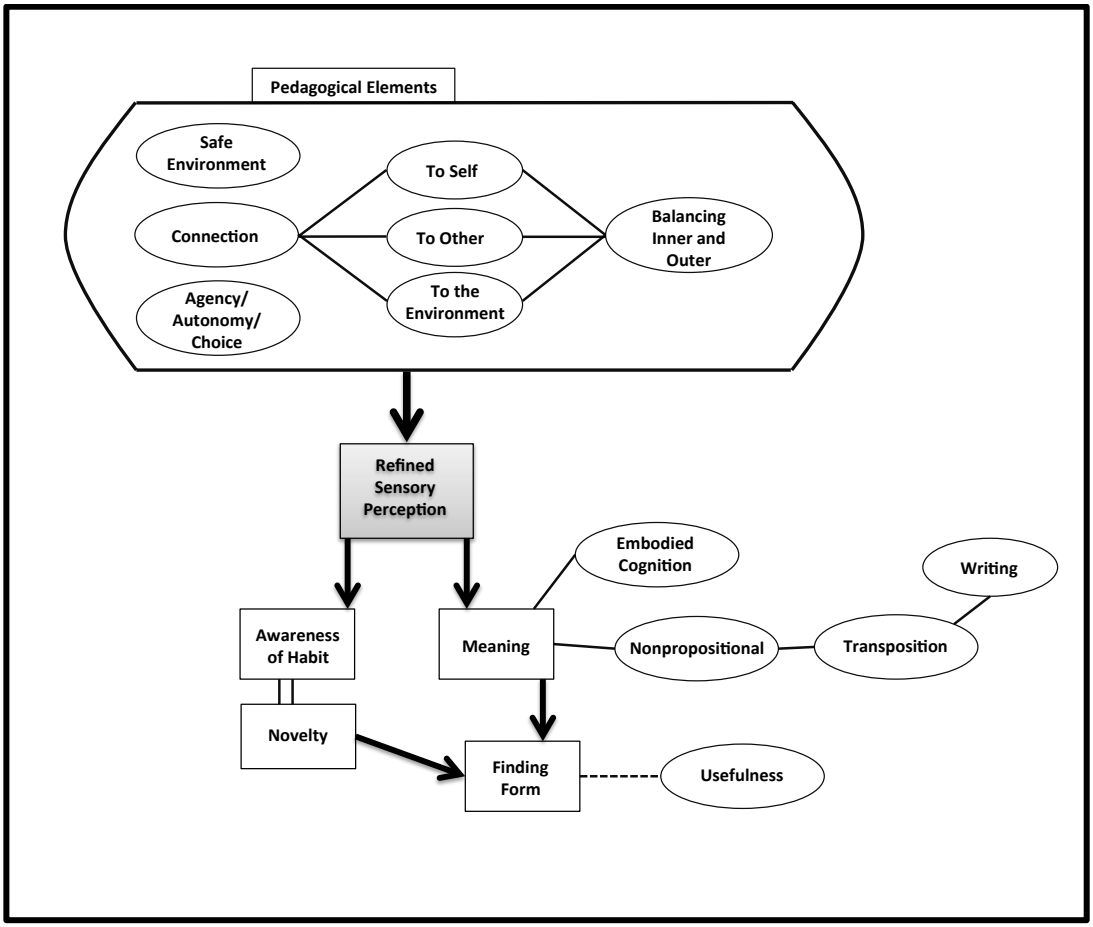

Figure 2: Emergent Themes and Their Relationships. Key themes are indicated by rectangular boxes.

As Braun and Clarke (2006: 84) state, 'for latent thematic analysis, the development of the themes themselves involves interpretative work, and the analysis that is produced is not just description, but is already theorized'—therefore, my identification of the shared themes presented here, and in Chapters 6-9, is also a theoretical analysis. The 'definition' and organization of these themes is therefore my own, as an interpretation of the pluralistic perspectives on each of the themes I uncovered in my research process.

A word on that organization—for the purposes of logical composition within this thesis, I have ordered the themes into a somewhat linear progression and grouped them where appropriate. However, in practice, the relationship between these themes is less linear and more like a spiral or web—themes interlink, relate, and overlap. My experience of them (confirmed by checks with each of the artists) is that they repeatedly relate back to and intertwine with one another, rather than nicely lead one-into-another. Data extracts often related two or more themes within one excerpt (sentence, clause, thought, felt exploration, etc.).

In this analysis, it is my aim as a researcher to comprehend how creativity is understood within the 'dance-Somatics' (Reed 2011) community and whether (and how) creativity may be enhanced in somatic practices. As such, I have made an organisational distinction between the types of themes that have emerged: these are grouped as *shared themes* and *key themes*. Each of these categories may also contain sub-themes that relate under one collective 'umbrella' theme.

4.4.3 Overview of Themes

In my analysis, I consider *key themes* those contributing to the cognitive processes underlying creativity in Somatics-based choreographic practice—namely refined sensory perception, novelty, meaning, and finding form. These comprise the primary focus of this thesis, and are covered in later chapters (6-9). *Shared themes* are those that I view as precursors to, or products of, these key themes. In terms of grouping the themes, I found that the precursor shared themes fit neatly under the broader category of *pedagogical elements*, as they were all aspects prevalent in—and central to—the Somatic Movement Education learning environment, and its role in facilitating creativity. These shared themes are each communal tenets of practice between all three artist-educators. This grouping contains several sub-themes, including a safe environment, connection, and agency/autonomy/choice. Connection also contained sub-strands of connection to self, to other, and to environment.

I argue that through these pedagogical practices, participants gain refined perceptual abilities, which was the first key theme that emerged from the data. For the purposes of this research, the *refined perception* theme is an especially key theme (indicated by the specialized 'bubble' in the figure and covered in Chapter 6), as I posit it explains *how* training in Somatics facilitates creativity in choreography. This refinement in perception has a dual outcome—the first being that it allows for awareness, and potential 'defeat,' of habit by originality (Koestler 1964)—or novelty, as psychologists might state (Amabile 1996, Campbell 1960, Runco 2007, Stevens et al. 2003). In other words, because

practitioners are able to become aware of, perceive, and facilitate subtle shifts in their physical state and positioning, they are able to bring to consciousness affordances or patterning that would otherwise be a sub-conscious habit. Secondly, being able to differentiate between ever more subtle physical variations allows for more choice in movement possibilities—choice for a new pattern (or to consciously retain a familiar one, if it is best serving one's purpose), rather than habitual response. Combined key themes of *defeat of habit* and *novelty* are connected by a double-line in the above image, indicating the tight coupling of awareness of—and ability to reject or overcome—one's habitual responses in order to discover a new response to stimuli or solution to a problem, a coupling which seems especially relevant within the context of choreography and movement patterning, as so much of our daily postures and movement is unconscious. These two themes are discussed in Chapter 7.

This process of noticing, and choosing, is inherently a meaning-making process—e.g. one comes to the conscious realization that a habit is meaningful, and subsequently, useful for constructing one's dance, or not. Thus, a second outcome, also indicated in the above image by an arrow, of this refined perceptual ability, is the theme of *meaning*. Here, *meaning* indicates a generation of meaning—beyond a basic level of awareness and into macro-meaning or, in the ICS model, 'deeper' or 'more abstract' levels of meaning (Barnard 1985). *Meaning* here forms a key theme, as elaborated in Chapter 8, with two sub-themes emergent from the data that closely relate to the broader category of meaning-making. The first of these sub-themes concern the ways in which meaning is made, (e.g. a connection to psychological theories of *embodied*

cognition). The second concerns the type of meaning made. A 'deep' form of meaning may be either propositional (logical, rational) or nonpropositional (affective, non-rational) meaning (Barnard 1985, May and Barnard 2004, Teasdale 1993). The type of meaning created in somatic practices was reiterated throughout the data set to be the latter, *nonpropositional*, abstract form of meaning, therefore forming a sub-theme of meaning.

This nonpropositional meaning is then explored/deepened/further understood through 'capturing' meaning made through movement by translating it into another form. Especially for these artists, this other form was *writing* (another sub-theme), as they each emphasized writing was an integral part of their creative process. Writing is presented in all three artists' data as a form of harvesting the meaning made in nonpropositional ways into something verbal—what psychologists would term a *transposition* of meaning (another sub-theme) from one form into another. It is understood, in psychology as well as by these artists, that in transposition, meaning loses some fidelity and becomes more abstract and schematic (Barnard 1985, May and Barnard 2004). However, writing, and in general the ability to 'capture' the highly abstract, nonpropositional meaning generated through somatic practices, appears to be an important process for these artists—perhaps as a way of retaining or remembering the meaning unearthed through the physical processes. Writing in this sense, according to all three subjects, tends to take on a poetic form—again emphasizing that this is a transposition of highly abstract meaning, as the poetic form subverts the 'fixedness' of defined meanings and logical, rational (propositional) language structures.

Meaning is also connected to the sub-theme of *embodied cognition*. Here, the data pointed to an overarching thrust in all three artists' perspectives that meaning-making (e.g. cognition) occurs beyond the brain and is a product of the moving-dancing-sensing-feeling-acting animate body *and* brain. Each of these sub-themes is discussed at length in Chapter 8.

A subsequent key theme that emerged was the concept of *finding form*. In this sense, again, it is possible the artists are articulating the 'capturing' of meanings discovered through Somatics. Here, they are identifying not only the 'generation,' or creation, aspects of creativity that psychologists identify, but the act of choreographing itself. Choreography here *is* the act of 'giving form' to movement. This definition of the choreographic is elaborated in Chapter 9. There, my operational definition is inclusive of form given through any of the following:

- a process of selecting and 'setting' movement that most strongly reflects the discovered/desired meaning (as in Olsen's process)
- creating the appropriate setting (i.e. environment, performance location, production elements—including light, sound, set, etc.—and score, the literal *form* of the work) which will allow for improvisational movement that most strongly reflects the desired meaning (as in Tufnell's process), and
- organizing the order of a process sharing (as in Reeve's [see Meehan 2018 in press]).

This theme of generation, creation, and giving form indicates bringing awareness and setting the stage for the movement-meaning *itself* to take place in a rehearsal

or performative setting. Thus, it is distinguished from a transposition of meaning, and is rather a bringing-forth of abstract, nonpropositional meaning. It is, in essence, the choreographic act.

The last theme that emerged, also as indicated in the above visual depiction (and discussed in Chapter 9), is that of usefulness. *Usefulness* is also a shared theme in my analysis, but is understood as a product of the key themes, rather than a precursor. Thus, it appears after the discussion of key themes, in Chapter 9. As noted previously (Chapter 2), usefulness is a key aspect of the definition of *creativity* in psychology (Campbell 1960, Kirsh et al. 2009, Koestler 1964). I sought to explore how the aspect of usefulness might be conceived, experienced, or understood within the Somatics community. Thus, I questioned the artists, without any definition of the term, about their perspective on the *usefulness* of Somatics in my interviews.[20] Most of the statements around usefulness were closely related to making meaning from, and connecting to, one's inner self—as such, the idea of *usefulness* is more closely tied to an individual use than a broadly 'useful' creation for society. Thus, *usefulness* in this sense is related to discovery, awareness, and patterning that serves an individual—which is tied to the pedagogical aims for refined perception, and ultimately greater wellbeing—rather than any definition of how choreography becomes 'useful' for audiences. In approaching the idea of *usefulness*, choreography is perhaps most useful as a form in which to recognize, understand, and reify or re-create the types of meaning discovered in somatic practices, which—as stated earlier—are largely

[20] Several offered statements about the usefulness of Somatic Movement Education prior to my direct questioning as well.

abstract, nonpropositional, and created through the moving, animate living body. Thus, *usefulness*, for the purposes of this research as it is interested in creative choreographic practice, is linked in my analysis, and in Figure 2, to giving form. The linkage is a dashed line rather than a direct line due to its non-linear coupling with form generation.

In sum, the shared (precursor) themes of the research include the pedagogical elements (of a safe environment, a sense of connection—to self, other, and environment in order to balance inner and outer, and sense of agency/autonomy/and choice). These lead to key themes of refined perception, the awareness of habit to discover novelty, meaning (both nonpropositional and embodied), and generation/creation/giving form. My analysis also raises questions around the final shared (product) theme of usefulness. These themes will be discussed at length in the following chapters (5-9), with representative examples offered from the data collected. How these themes relate to theoretical frameworks from psychology (including creativity research, embodied cognition theories, and the Interacting Cognitive Subsystems framework) will also be discussed further in subsequent chapters.

CHAPTER 5. PEDAGOGICAL THEMES

5.1 Introduction

As identified in Chapter 3, I undertook a multimodal analysis combining elements of phenomenological inquiry, grounded theory, close reading, thematic analysis, and ethnographic participant observation to examine data from interviews, published works, and workshops with three Somatic Movement Educators/choreographers. As Chapter 4 outlines, a number of themes emerged as shared between these artists, appearing throughout the data corpus. These were divided into *key themes* and *shared themes* (e.g. precursors to, or products of, key themes). Themes may be thought of as grouped into three general areas in my organization of the findings. These are:

1. Shared pedagogical elements which appeared across the various practitioners' workshops/classes
2. Refined sensory perception, which I view as the change-agent in facilitating creativity and leading to both the key theme of novelty and awareness of habit, as well as
3. Meaning-making processes that support the facilitation of creativity in choreography, which I situate within theories of embodied cognition and the Interacting Cognitive Subsystems model, and thus include sub-themes of transposition into multiple forms.

Though this thesis largely focuses on the key themes (in the second and third groupings), this chapter will briefly address the shared precursor themes, namely pedagogical elements contributing to creativity in Somatic Movement Education environments.

5.2 Pedagogical Elements

Many shared pedagogical aspects of Somatic Movement Education have been identified in earlier research, (for examples, see Batson and Schwartz 2007; Batson 2009a; Berardi 2007; Brodie and Lobel 2004; Brodie and Lobel 2006; Brodie and Lobel 2012; Eddy 1992; Eddy 2009; Fortin, Vieira, and Tremblay 2009; Fortin 1995; Green 1999; Hanna 1970; Johnson 1986; Linden 1994; Weber 2009), and the list generated in this research is not exhaustive of these; however, as the focus of inquiry in this research was on creativity, it is my assertion that the prevalence of these *particular* elements, as they have emerged from an inquiry with that focus, thus have a bearing specifically on the development of creativity in somatic practice. This chapter presents a number of shared themes that emerged and were grouped into this category, including: a safe environment, connection (to self, to other, and to the environment), balancing inner and outer, and agency/autonomy/choice.

5.2.1 Safe Environment

A safe environment is the first theme under the cluster of pedagogical elements that may influence creativity. Firstly, psychologists claim a person must feel secure to take risks, discover something new, and be creative (Amabile 1983: 198). Setting up the somatic movement environment as a 'safe space' for exploration is essential. I observed a number of factors that contribute to the creation of a safe environment, particularly a generous arrival time and the incorporation of a practice of non-judgment.

5.2.1.1 Arrival

Arrival into each of the workshops was marked by its differentiation from 'outside' spaces. Olsen encouraged awareness of transitions, particularly through her practice on 'thresholds,' where focus was on passing from one space to another (field notes 27.7.16). Reeve (2016a) spoke in our interview of the importance of mindfully preparing the space before movers enter it. She claimed she approaches it as a ritual and stated that attentively mopping the floor is, 'in a literal level, [an example of] the sense of ritual around a preparation […] so that there's already something that's happened in there that's wishing people well.'

Tufnell (2016a) creates a safe environment by beginning with, in her words, 'being dead ordinary.' She asserts that creativity—e.g. to reach 'something quite deep […] that opens up possibilities'—must start from the familiar, 'because it's safe' (Tufnell 2016a). She advocates 'being as ordinary and familiar as you possibly can' to enter the practice (Tufnell 2016a). Here, familiar, though close to, is not the same as habitual; familiar implies knowing, whereas habit implies doing without conscious awareness or choice. We can engage in familiar practices consciously, like attending to our weight, timing, and placement while walking. Though we can attend to it, familiar, ordinary movement, like the walking that began her workshops each day (field notes 10.6.16, 1.6.16), is often movement that we are not consciously aware of executing. In this way, the familiar becomes habitual—outside of our attention, our 'normal' way of moving. As regards to fostering creativity, beginning by attending to a 'normal'

movement pattern helps movers become aware of their 'ordinary' habit, to then make a conscious choice whether to retain the habit or to move beyond it.

Olsen was protective during her Authentic Movement-focused 'Moving/Writing' classes at Bates Dance Festival (field notes 25. 7.16 – 5.8.16), which, unlike the '*Body and Earth* – Cultivating Connections' classes, were held indoors, presumably to allow for the further assurance of a metaphorical 'safe space' where intrusions could be more carefully monitored. Though the festival was documenting classes and creating a promotional feature on Olsen, she went so far as to disallow filming in the 'Moving/Writing' sessions; she reiterated throughout the weeks I was there that it was a 'safe space,' and anything happening in the sessions was not to be shared outside of them. Likewise, Tufnell stresses 'the importance of confidentiality within the group' (Tufnell 2017a: 17).

5.2.1.2 Non-judgment

In order to develop novel movement, dancers must feel supported to take risks; in Somatic Movement Education pedagogy, this often takes the form of the explicit practice of non-judgment, as predicated by client-centred psychotherapeutic traditions like Carl Rogers' (1957)[21] humanistic psychotherapy, which promotes 'empathic understanding and unconditional positive regard' for self and others. Judgment is a result of measuring of one's own self, actions, and choices against one's surrounding sociocultural contexts; thus, relinquishing judgment must come both from within as well as outwith the

[21] In this article, Rogers also traces his perspective back to the work of John Dewey and Stanley Standal.

individual. Tufnell's work speaks to this cultivation of non-judgment as she states,

> We are all programmed to think of dance as essentially elegant, graceful, flowing, rhythmic. It is essential for now to set these associations aside and to avoid looking at or judging how one's movements may appear from the outside. […] A partner, as companion, who does not judge or interpret, helps us to suspend our own critical voices. (Tufnell and Crickmay 2004: 47, 55)

Cultivating non-judgment in the pedagogical environment is important, particularly because, as she notes, facing our deeper selves 'can be very frightening work. It can be unnerving. […] It can unleash all one's self-judgments, one's self-criticisms' (Tufnell 2016a). But, Olsen claims, 'By internalizing a supportive, non-judgmental but discerning inner witness, we develop self-trust at a deep level' (Olsen 2007: 323).

Tufnell's assertion of how somatic practice can unleash self-judgment was reaffirmed in my own experience: I struggled throughout my field work with self-judgment, particularly when workshops were taking place within dance spaces[22] and alongside other professional dancers who were able to be practicing full-time; the discrepancy between my experience of my body when in

[22] Here, I realized the situation of Somatics within 'dance' can be problematic, due to the dance field's history of objectification of bodies, and its implicit aesthetic preferences for particular body-types (e.g. white, thin, flexible, athletic…) about which much has been written. The Somatics field, too is grappling with the effects of this history—recent initiatives question the resulting homogeneity of the Somatics field (evidenced by recent confluences, such as the 'Bodily Undoing: Somatic Activism and Performance Cultures as Practices of Critique' symposium at Bath Spa University 16-17.9.17 and likewise-titled special issue (2017, Vol. 9:1) of *The Journal of Dance and Somatic Practices*; Glenna Batson and Thomas Kampe's 'Somatics: An Emancipatory Education for the Future?' presentation at the Dance Fields conference (20.5.17, Roehampton University); the creation of the Institute for Somatics and Social Justice [https://www.somaticsandsocialjustice.org] and previous research such as Jill Green's [Green 1996a, b, c, d, Green 2001, Green 2002a, Green 2013]). Though this was a personal revelation in my process, I feel it extends somewhat outside the focus of this thesis so will not cover it in great detail, though it does warrant further investigation.

full-time dance-movement practices and my present, more sedentary researcher physique caused a flood of judgment and emotion, leading to deeper core judgments that were often difficult to confront. As Tufnell notes, somatic practices encourage us to face our deeper selves. Olsen noted this accessing many 'layers' of ones' self[23] could be 'quite emotional,' noting that it can be 'what one might call a therapeutic process, but really it's just the creative process' (2015).[24] However, Olsen noted that Somatics gave her the resources to know herself deeply and to allow her to guide others through both their own embodied history as well as sociocultural and transpersonal contexts so that they may 'learn to experience all those layers without it being a big deal' (Olsen 2015). Here, Olsen's ability to access deep layers 'without it being a big deal' exemplifies the non-judgmental awareness cultivated in somatic practice.

Tufnell identifies the effort to 'not try to explain, interpret or judge' what has been made as 'a key element' in her creative practice (Tufnell 2017a: 36). Olsen also notes, 'Every artist has a well-developed "judgment mind,"' one which needs to be reined in to allow creative expression (2014: 130); she also recommends artists 'shed the excess layers of others' views' when making work, highlighting that judgment is both internal and external if a practice of non-judgment is *not* explicitly espoused (2014: 131). Batson and Wilson (2014: 130-132) identify non-judgment as an essential component to somatic practice, and an agent of

[23] In the interview, Olsen named some of the layers that somatic practices (for her, embodied anatomy and Authentic Movement) allow people to access that are 'all living in our body:' skeletomuscular, organ-ic, emotional, cultural history, political history, familial history, and personal history, and trauma, to name a few (Olsen 2015).
[24] Here, perhaps unknowingly, Olsen refers to the ways in which Somatics as therapy and Somatics as education are often blurred, as discussed earlier in reference to Hanna's work (1977).

change (or novelty, central to creativity); likewise, Reeve notes that through Somatics 'it becomes possible to use movement to identify, understand, and if necessary, transform cultural attitudes and tendencies, to shift deeply rooted "incorporations" and to create new ways of moving' (2011: 41). Further, she spoke about her efforts to use 'neutral' words and 'clean language'[25] to avoid inherent judgment in her directions—because, as she states, somatic practices 'are so non-judgmental' (Reeve 2016a). It is through intentional pedagogical approaches such as this that somatic practices support dancers, like myself, in confronting those deeper core judgments observationally rather than judgmentally or critically.

The judgmental response is a stressful, emotional one, an arousal of the sympathetic nervous system; somatic practices' non-judgmental pedagogy is a critical step in creative generation, as it creates a safe space to observe core beliefs non-critically, to avoid this habitual engagement. As Olsen (2015) states,

> The deep creative, integrative place comes from a parasympathetic state in the nervous system, not a sympathetic arousal. That's pretty important. Because what that means in terms of the whole novelty thing, is that you have to get in a state that's safe enough—literally, and psychologically—that you can start to integrate things that come together in ways that you wouldn't normally.

This bringing together of seemingly disparate things is a hallmark of creativity (e.g. Koestler 1964, Mednick 1962, Runco 2007), and by connecting the process of discovering novelty to a non-judgmental parasympathetic state, Olsen confirms the importance of the shared pedagogical theme of a safe environment to creative generation.

[25] Reeve states that, in discussing 'clean language,' she is referring to a common practice in therapy and coaching contexts.

5.2.2 Connection

The next shared theme was around connection, and is subdivided into connection to self, connection to other, and connection to the environment, which each may occur separately or simultaneously (in part or in total). First, I address connection to self.[26]

5.2.2.1 Connection to Self

Experience, memory, emotion, affective states, as well as many forms of cognition and meaning-making are housed in the body (Batson and Wilson 2014; Gallagher 2014; Gibbs 2005; Shapiro 2011; Sheets-Johnstone 2011; Sheets-Johnstone 1999; Stevens, Ginsborg, and Lester 2011; Varela, Thompson, and Rosch 1991; Wilson and Foglia 2011), thus a first-person, felt sense of one's own body can facilitate connection between all these aspects of ourselves (Eddy, Williamson, and Weber 2014; Williamson 2009). This 'self' we connect to is multifaceted. Firstly, it is 'self' on a literal level (e.g. the boundaries of my own body), or what may be termed the *categorical self* (Lewis 1990). The categorical self includes ways in which one categorizes themselves—e.g. a woman, a brunette, a tall person. Secondly, it is 'self' in a metaphorical sense (e.g. a connection to one's individual values, desires, needs, and so on). In psychological discourse, this relates to one's self-concept, or existential self (Lewis 1990)—i.e. that which Bee (1992) identifies as 'the most basic part of the self-scheme or self-concept; the sense of being separate and distinct from others and the awareness of the constancy of the self.' An existential self is in essence the sense

[26] This is not intended to be presented as a hierarchical list or even suggestion of temporal progression; rather, simply a list of the forms of connection encouraged in Somatics, ordered here from the micro to the macro.

that we exist. The resultant sense of constancy allows for meaning to be attached to '*my*' self's experiences.

As Tufnell notes, this existential sense of *my* self is dynamically crafted through our senses; she claims, 'Information from our senses underpins how we establish a coherent sense of self and connection to the world about us' (Tufnell 2017a: 125). Though I argue that somatic practices offer space for individuals to connect to both their categorical and existential selves, I posit that the categorical self is more directly connected to a refined sensory perception—to be explored in the next chapter—as it often directly relates to sensing one's physical body. The connection to self which arose in the data was more frequently related to a sense of the existential self—the 'I' entity to which we attach personal meaning, feelings, associations, and so on. Reeve termed this our 'innermost sense of being alive' (2016a). She described the difference in an analogy: simply moving without this sense of connection was 'two dimensional,' and moving with this connection to our 'innermost self' was feeling 'three dimensional' (2016a). She stated, 'I know when I'm moving two dimensionally. I feel like a shadow puppet, and I feel that I really haven't brought *myself* there' (2016a: emphasis mine) in our interview. She claimed that a benefit of Somatics lay in its provision of opportunities to move three dimensionally, noting that three-dimensionality is 'the sense that I can really bring my character' (2016). This character, self, or three-dimensionality are all examples from the interview with Reeve which highlight a connection to an existential self with its associated individual meaning and its situated-ness in its environment. Olsen (2015) termed this existential self our 'inner landscape,' and often identified that individual meaning

as personal history. She claimed, 'Authentic Movement is a way of exploring within a specific, very simple form, how much we know is going on inside us and outside us—meaning our own history of our life that's stored in the body' (2015). Furthermore, this connecting to an existential self and its associated meaning, for Olsen, offers creative opportunity: 'As an artist, I feel like part of your job is to keep investigating that inner landscape' (field notes 3.8.16). Here, Olsen illustrates how the connection to self can lead her into creative generation. Her experiences point to the importance of connection to self for creative generation as a central pedagogical theme in this research.

5.2.2.2 Connection to Other

'Getting together in pairs' (Tufnell 2017a: 36) or groups is central to Tufnell's practice, an element which helps to expand the sense of connection beyond the self and into an interpersonal connection. This connection to other is an integral Somatics principle (Williamson 2009) founded upon a sense of trust and support stemming from Somatics' pedagogical aims to be non-judgmental. In Somatics workshops, the connection to other often takes the form of dyad work. In Reeve's 'Body and Communication' workshop, the presence of an other provided a context—a catalyst which allowed participants to observe their embodied interpersonal habits (field notes 5.3.16, 6.3.16). Whereas, in all three practitioner's workshops, dyad work more typically took the form in which a partner reflects (in words or movement) what they have witnessed in their partner's movement. It may also be simply as witness, watching or listening while an individual processes their own experience, as was frequently the case in

Olsen's Moving/Writing classes (field notes 25-28.7.16, 1.8.16). This supportive witness was an element used by all three artists, and served as a reflection, allowing me, through further contemplation with a partner, to give 'voice' to the deeper meaning and associations made in my movement.

5.2.2.3 Connection to Environment

Lastly, the theme of *connection* also includes a connection to the environment—the space not only comprised *of* us, e.g. our relationship to ourselves and our peers, but 'between us,' e.g. to the landscape. Though it was not a constraining variable in selection for inclusion in this research, coincidentally each of the artists often work outside in their practice, changing environments from indoors to outdoors, from contained to expansive, man-made to natural, making their work permeable to influence by the space in which they practice. In an interview, Tufnell states, 'I really like working in response to space, whether it's outdoors or indoors' (Tufnell 2016a). And in our individual retreat, we spent the second day working outside in the Wich woods, in a site-specific, environmental practice that mirrors many other Somatics-based dance artists' practices.[27]

'We understand the connections between body and earth through experience' claims Olsen (2002: ix and 189). Her *Body and Earth,* as a workbook dedicated to the ways which our bodies are both derived from and a part of the natural world, is one example of this outdoor practice; indeed, her '*Body and Earth*: Cultivating Connections' workshops occurred outdoors most days I participated, despite

[27] See also the overview of Reeve and Olsen's practices in preceding chapters.

having a regularly reserved studio space. In my fieldwork, I found Olsen approached an awareness of space similarly whether indoors or out. This awareness included multisensory attention, which could be understood within the ICS model as focal attention originating in the visual, body-state, and acoustic input subsystems. Indeed, this engagement was present whether indoors or out. She claimed in our interview that, in addition to Authentic Movement and embodied anatomy, 'my somatic practice would also be about moving out in nature' (Olsen 2015).

Likewise, Reeve's workshops 'Strata - Autobiographical Movement,' 'Environmental Movement,' and 'The Ecological Body' each occur mainly outdoors. During a weeklong retreat in Coventry, we practiced her principles in groups in outdoor settings both day and night, and were encouraged to find our own public places in the city to practice solo or in small groups outside of group practice periods. In a handwritten informational flyer posted during this retreat, titled 'Ecological Movement,' Reeve advised participants to notice pattern, 'not ignoring that our patterns are embedded in the patterns of ICE,' (the Institute of Creative Enterprise building where the retreat was based) (field notes 16.3.16). This illustrates the 'ecology,' or environment, in Reeve's 'Ecological Movement' that includes not only natural, but also man-made environments that we as movers inhabit and illustrates that an awareness inclusive of these environments is central to her practice. Like Olsen, Reeve's ecological awareness was multisensory and can similarly be traced through the ICS framework—as such, these ecological perceptual-action patternings could be considered embodied cognitive patterns as well.

Indeed, Reeve commented during her 'Body in Movement' workshop that all of the practices she was sharing were 'environmental,' and had been displaced from natural environments to the village hall where we practiced them (field notes 6.3.16). I found parallels from this to her workshops at the Dance and Somatic Practices conference (field notes 7.7.17), where I felt Reeve facilitated an approach to being aware of the indoor, studio setting that was akin to more typical ways of engaging with outdoor, natural environments. Perhaps because the indoor environment of a studio space generally provides less sensory stimulation, and its familiarity creates a 'factory sense' and dulls our awareness of the surrounding environment, the tendency is for dancers to 'tune out' the studio environment. In contrast, taking dance practices outside provides a flood of non-typical sensory stimuli during practice—a fresh awareness and impetus for movement. In this workshop, Reeve's direction encouraged this attunement to the familiar, indoor studio setting. This attention to space was also present in her workshops in the village hall (field notes 6-7.2.16, 5-6.3.16), however my awareness of it was heightened in the Coventry University studios, due to my personal familiarity with a studio I'd been in often, as opposed to the newer (and less-typically 'dance' setting) hall.

Analogously, Tufnell's guidance at the start of a workshop to consciously attend to areas on which our gaze naturally landed brought a fresh awareness to a typical dance/performance space that performing arts professionals generally treat as a 'blank slate'—a nondescript—rather than attending to consciously as an impetus for creative inspiration. Here, too, Tufnell's approach to space was to

engage in a focused attention to particular sensed elements, another aspect of the ICS model, as discussed in Chapter 2. As each of these examples illustrates, despite these artists perhaps originally cultivating awareness in nature, the ability to cultivate connection to any sort of environments in which we find ourselves, I claim, is another central pedagogical tenet in creative somatic practices.

5.2.3 Balancing Inner and Outer

Perhaps the shared theme that is most pertinent to the act of choreographing from somatic practices is *balancing inner and outer*. The focus of this thesis is not only on somatic practices, but on the aspects of Somatics which facilitate creativity in choreography. I necessarily attended to the aspects of these artists' workshops which lead participants beyond promoting embodiment and into practices of making.[28] What are the common themes in these artists' perspectives that connect Somatics and choreographic creativity? I concur that the emphasis each of these artists placed on attending beyond the self—in particular, cultivating a balance between inner and outer foci—was a key emphasis. Thus, I propose the following question: though somatic practices may begin by focusing only on individual experience, is it the situation of that

[28] Because of the context of Tufnell's workshop (delivered by Merseyside Dance Initiative) and Olsen's classes (as part of the Bates Dance Festival), the *making* in these spaces was choreographic, as they were situated within dance contexts. In Reeve's workshops and retreat, multidisciplinary artists and 'laypeople' attended, including those working in theatre, music, poetry, visual, and performance arts, and even a Buddhist monk, but all were, in those workshops, *making* primarily in the medium of movement.

experience within an equal awareness of the outer where the artist moves beyond practice and into the art of choreography?[29]

The connection to self, others, and the environment as outlined above requires a particular form of attention, not only a 'kinaesthetic mode of attention,'[30] but one that extends beyond the body and which I assert aims to balance the inner and the outer—the balance 'between inside and out' for Tufnell (Tufnell and Crickmay 2004: 47), or 'inner and outer awareness' for Olsen (2002: 3). Our capability for balancing typical outer perception with a capacity for inner sensing is 'one of the most thoroughly neglected areas of body education' in Olsen's view (2004: 11). Noticing and balancing awareness between inside and out was an integral aspect to each of the artists' practices. For instance, according to Tufnell, 'the skill lies in being able to include what another person is doing while not losing one's own momentum of thought' (Tufnell and Crickmay 1990: 63, 72). This correlates with Reeve's 'Ecological Movement' flyer mentioned previously, which asked retreat participants to consider what arose 'within the co-creation' between ourselves, other performers, and audiences and how it affected our movement (field notes 16.3.16). Olsen, whose practice also focuses on ecology, was explicit about the importance of balancing inner and outer awareness, and in our interview, said, 'my somatic practice would also be about […] moving out as well as in. Taking perception out as well as in. Doing changing lenses. Eco-

[29] Further discussion of what I mean by *choreography* follows in Chapter 9, section 9.1.4.
[30] I borrow this term from dance researcher Shantel Eherenberg's article, in which she describes a *kinaesthetic mode of attention* as 'a mode of intentional consciousness while dancing' which is focused on bodily sensation, feelings, and embodied translation or problem-solving processes 'generally conceived as a directing of intentionality toward one's own bodily sensations and perceptions' while attending to bodily movement or bodily response to movement, approached 'in a mode of discovery' (2015: 44-46).

psychology shifts of temporal and spatial scale […] So both inner and outer' (Olsen 2015). Clearly a balance of attending to inner and outer stimuli is imperative to Olsen, Reeve, and Tufnell. I argue it is essential in moving from practice into creating for performance. Tufnell reiterates this contention when she stresses the importance

> to include what is outside me. And as much as I dive into my body, to dive into the qualities and particularities of the space is incredibly important. […]. I think that connection to the wider world is also something [that] gets very lost in a lot of somatic work. And so I think that it's really important to move beyond the self. (2016a)

Here, her claim echoes my assertion that a stronger emphasis on this balance of inner and outer is what differentiates Somatics as a process towards choreography from Somatics as a process of movement exploration for other purposes (such as self-discovery or development). Further, this balance of internal and external stimuli is reflected in the deep meaning systems of the ICS model.[31]

This emphasis on balancing the internal with external was a noteworthy difference between this research and my previous experience as a practitioner and student of Somatics. In my previous experience, much of somatic work has focused on sensing oneself, and this inner focus was prioritized over any external stimuli. In the past, I received instruction to 'move with eyes closed' or to 'keep a soft focus' or gaze, only allowing enough stimuli to keep myself and my fellow movers safe in a shifting kinetic environment. Reeve's frequent reminders to me to include the room in my awareness, to shift my eyes to the horizon, made me aware of a preference for a focus so internalised that it excludes the external

[31] I discuss this blending in more detail in Chapter 11.

(field notes 5.3.16). Working outdoors at Bates College, Olsen frequently reminded us to 'invite others in' to our improvisations, and said that extending our focus was a simple, nonintrusive way of including passers-by in our movement explorations (field notes 27.7.16). This simple directive shifted my experience of a somatic movement exploration from a personal practice into a performative one and struck me as an important emphasis if movers are to progress their somatic practice from a practice of self-awareness into choreographic pursuit.

5.2.4 Agency, Autonomy, and Choice

The final shared pedagogical sub-theme is one of agency, autonomy, and choice. Each of these terms is interrelated, and their usage tightly coupled in my interpretive analysis of the data. For, within Somatics-based choreography, or indeed the creative process for any form of dance-making, the act of creation is a series of choices, strung together.[32] *Agency* is the feeling of control over one's own experiences, the ability to make free choices, whereas *autonomy* is the sense of being a 'free agent,' self-governed and released from restrictions of sociocultural norms or directives from a superior. Both are instrumental in choice-making: an individual must feel they have permission to make decisions *and* the ability to act upon them.

[32] See divergent thinking discussions in previous chapters, and for a more domain-general discussion, Amabile (1983: 198) who, although she does not explicitly define creativity as a decision-making process states, 'Generally, choice will enhance intrinsic motivation, and hence, creativity.' See also Stevens et al's claim that creativity lies in the structuring of parts—which is, as they illustrate through the geneplore model of creativity, not a linear progression but a series of choices made by the choreographer (Stevens, Malloch and McKechnie 2001: 60).

Discussing such choice-making in the creative process, Olsen claims somatic practices offer 'information about our own personal movement material that helps us decide whether to explore it for ourselves in the studio, extend it into therapeutic work, or bring it to the stage' (2007: 324). Such choice-making in dance occurs on a micro, movement level—which gestures, orientation of the body, postures, etc. arise—as well as on a macro, structural-level when choreographing a work. Choices regarding the choreographic composition, the ordering of movement and its framing, also inherently rely on a sense of agency in art-making (Houston 2009, Melrose 2009), as agency is the capacity for one to make choices. Tufnell discusses the importance of choice-making in clarifying a choreographic work while one is creating for performance, stating 'viewing the work from an outside eye and testing intention against what is actually there' is essential in developing a strong work (Tufnell and Crickmay 1990: 202). And furthermore,

> Developing an idea may involve cycling many times through processes of opening up and paring down material, at each stage deciding what major or minor change will move the work on. […] Weaknesses in a piece of work stem most often from not taking time, not attending closely enough to chosen elements. (Tufnell and Crickmay 1990: 194, 202)

In my experience, the options of action come from the awareness of the body-in-situ: these may be felt sensations or abilities to move (e.g. because I have freedom of range of movement in my arm, I might raise it) or factors in the environment which allow for actions to be taken (e.g. a chair in the space gives me an affordance to sit on it; other people may give the affordance of contact or interaction). These affordances, and my ability to recognise and make physical choices, are the direct result of an awareness of the internal and external. As

Tufnell directs in one exercise: 'Sense the possibilities…of movement…changes of direction […] Listen…to the space between one moment…and another' (Tufnell and Crickmay 2004: 31), which highlights the importance of an awareness of options, a precursor to choice-making. I assert that Somatics is an environment where one practices a slowing down, sensing that space between moments where diverse options are available, to shift into a place of more agency and autonomy where one may operate by conscious decision-making. Tufnell reiterated my perspective when she stated that Somatics 'makes you awake to choices. It makes you awake to possibilities' (Tufnell 2016a). Furthermore, Reeve notes that in facilitating Somatics, she is 'looking to support [movers'] full potential in movement, as it is happening, to expand their choices' (2011: 49). Here, she reaffirms that somatic practices enable agency—the ability to discover new possibilities leads to the ability to make new choices.

Tufnell notes that her education and career has been a 'history of trying to find a way on my own,' again pointing to somatic practices' ability to facilitate the discovery of one's own individual style of movement (Tufnell 2016a), or what Olsen terms 'the idiosyncratic voice that's trying to come out, not the pre-known' (Olsen 2015). As Olsen (2015) noted, 'Somatics has a way of exploring and articulating what we've been doing in dance all along'—e.g. the increased embodiment and refined sensorial acuity that traditional dance training encourages (Ehrenberg 2015, Bläsing et al. 2012). Tufnell similarly stated, 'the moment [dancers are] working with dance, even if [they're] using set steps' they are facilitating a sense of embodied agency, and 'making that movement their own—that's a somatic process,' a 'somatic decision' (Tufnell 2016a). This ability

to recognise and opt for one's individual movement rather than the conventions of a particular technique or dominant aesthetic is an act of choice-making which hinges on both agency and autonomy.

Reeve echoes this, claiming that Somatics can help subvert dominant and codified standards through what she terms 'non-stylised movement'—or movement derived from an individual's own form rather than an externally predetermined technique. She states,

> Non-stylised movement challenges all these notions [of objectification]. […] The source of non-stylised movement is daily life and [somatic] movement practice supports the emergence of an individual's movement vocabulary that is 'in-formed' by their own unique body. It can also be one of the foundation stones for dance/theatre performance. (Reeve 2011: 10)

Likewise, Olsen observes how Somatics encourages 'the expansiveness of my own vocabulary as a dancer,' in both herself and her students.

Having agency to choose the most novel and suitable movement from an array of convergent and divergent options therefore leads to creative dance-making—a process enhanced through Somatics by its emphasis on what Reeve calls 'a consideration of how each individual can give themselves more choices in how they move' (2011: 20). Connecting the essential themes of creativity (novelty—e.g. 'defeat of habit' [Koestler 1964]—and 'usefulness' or 'appropriateness' [Runco, Illies and Eisenman 2005]) to choice-making, Reeve notes, 'In Somatics and Feldenkrais, subtle levels of movement are explored and emphasis is placed on providing [movers] with a wider choice of movement possibilities and on releasing fixed habits, so that the body can select new and more appropriate options' (2011: 18).

5.3 Pedagogical Themes' Relation to Sensory Perception and Meaning

In sum, themes of a safe environment; connection to self, other, and environment; balancing inner and outer; and a sense of agency, autonomy, and choice are all shared pedagogical elements in Reeve, Olsen, and Tufnell's Somatic Movement Educational approaches. I assert that these shared pedagogical themes are integral in contributing to the development of creativity in choreographers who source their practice in Somatics. My claim is that these particular pedagogical elements lead to a refined sensory awareness, which in turn opens avenues for meaning-making and novelty in movement generation. Thus, these pedagogical themes serve as a precursor for the development of sensory awareness.

But how do these themes lead to that refined sensory perception? Firstly, I maintain that strengthening a sense of connection to the self allows for a refined sensory perception in that it encourages and increases a felt physical sensing of one's self. As mentioned previously, a sense of the categorical self is, in a sense, an awareness of the ways in which our self is categorised—our selves have properties that can be experienced just as objects external to us may be, e.g. through sensory input (acoustic, body state, and visual) subsystems in ICS. The categorical self is identified by sensory perception of ourselves: I can see I have red hair, I feel my legs are heavy because they are big. Both categorical and existential senses of self relate to a refined sensory perception, because in order to perceive ones' self, one must recognise the self. Furthermore, relating to a

concept of self connects meaning to perception by associations grounded in a stable existential sense of self and in the blending of sensations with the 'internal' subsytems that create meaning in the ICS model.

Secondly, connection to others, likewise, is mitigated by our sensory perception. I see the other, I feel them, I smell them. I connect to another though my sensory perception: I listen when they speak; I touch them. In partnering work, I find myself refining my sensory perception and my sense of boundaries through their touch, which brings awareness to particular parts of me. In dyad work, I participate in a distributed cognitive system (Kirsh 2004) that allows me to deepen the associative meanings I made in my own movement.

Similarly, connection to the environment allows me to realise 'we are nature too,' as Olsen claimed in a radio interview and often in the *Body and Earth* classes (Lindolm, Van Wing, and Olsen 2014; field notes 27.7.16). Extending my awareness from self to other to environment allows for me to extend my perceptual acuity, and discern between more nuanced sensing, refining the flow of information and building connections between subsystems in the ICS model. My self does not exist in a vacuum, and the context of my sensing is both a part in enacting that sensing and imperative to the kinds of meaning I make (Varela, Thompson, and Rosch 1991) through my somatic practice.

Balancing awareness of inner and outer, another pedagogical theme, is central in this simultaneous sensing and contextualising. Furthermore, it allows me to consider the framing and organisation of my choreographic making, adding

layers of meaning which bring my somatic practice from one training my sensory perception into one that generates useful, communicable meaning through the act of choreography.

Finally, the sense of agency and autonomy gives me confidence to explore beyond the movement patterning inherent in my own original Western, ballet-based dance training. Through my extended perception, more choices become available; through a sense of my own agency, the act of making alternative choices thus becomes permissible. Connecting all of these pedagogical themes in their kaleidoscopic web of experience brings me to an awareness of choice, facilitated by the refined sensory perception trained in Somatic Movement Education, which will be discussed in the next chapter.

CHAPTER 6. KEY THEME: REFINED SENSORY PERCEPTION

I began this thesis with a biographical account of how I felt my choreographic creativity was enhanced by broadening my physical 'toolkit.' In particular, I sensed a seismic shift in my perception and practice stemming from the incorporation of Somatics, resulting in an increased sense of embodiment and creative movement generation. I then questioned whether my experience is normal. My sense, from discussions with other dance professionals and experience within Somatics contexts was that it was, but this thesis questions that assumption. From the process of dialoguing with Olsen, Reeve, and Tufnell, as well as the participant observation and close reading of their published work, I gather that this expansion *is*, indeed, a common experience for people making work grounded in their somatic practice(s). Indeed, scholars note the shift toward somatic practice is radical in that it offers skills in 'the internalisation of authority, self-awareness, self-knowledge, and self-education' and the capacity to become 'active agents in our experience, sensually alive' which are in direct opposition to Cartesian perspectives (Williamson 2009: 30) that exist as dominant cultural narratives in society and in dance (Green 1999, Green 2002a). Tufnell notes that when she began working somatically, it was prior to the term *Somatics* being widely used or understood; in those days, what she was doing was called 'new dance' (Tufnell 2017b)[33] and likewise rejected dominant cultural (and aesthetic) paradigms. She stated that for her, this new dance was similarly a

[33] 'New Dance' later came to be the accepted term for the postmodern-era dance movement in the UK, whereas in the US it is still called 'postmodern dance', though, as noted previously, naming of historical trends, like modern, postmodern, and contemporary, is rarely completely agreed-upon; therefore these terms retain some fluidity (Jordan 1992).

way of rejecting a 'particular aestheticized kind of movement' and toward 'training the body outside of traditional hierarchical technique,' asserting that, 'it was a time of reclaiming […] self-authority' (Tufnell 2016a). Likewise, Olsen claimed, 'I was a very external dancer. I'd been trained in ballet' before moving on to modern dance and Somatics in her training and choreographic practice (Olsen 2015). And she argued Somatics offers 'a sort of deepening, deepening, deepening the understanding of the science of body at an experiential level' (Olsen 2015). Reeve, Tufnell, Olsen, and myself each have different pathways into Somatics-based choreographic practice (perhaps Reeve in particular, coming from a theatre background as opposed to a Western performance dance background), however a shared narrative of shifting from a traditionally dominant Cartesian, objectifying 'lens' toward a subjective and body-based philosophical approach, is communal. And part of this radical shift means, as Reeve (2011: 7) notes, shifting from the resulting 'primacy given to the sense of sight' in a Cartesian model towards a greater consideration and attention to multisensory stimuli. In this sense, the refining of sensory perception—as Williamson above calls our capacity to become 'sensually alive' or Tufnell (2017a: 27) terms 'deepened body awareness'—is not only a shared aspect of Somatics training, but, in relationship to the wider theme of this thesis, I argue is the change agent in how somatic practices impact choreographic creativity.

Because I am situating my proposal for how this impact is achieved through cognitive theories, it is perhaps useful to offer some definitions from cognitive psychology here for clarity and context, since in my experience within the 'dance-Somatics' (Reeve 2011) contexts, terms like *sensation*, *perception*,

awareness, *attention*, and their derivatives, are often used indiscriminately. In psychological discourse, *sensation* is the passive reception of stimuli by any of our sensory organs. *Perception*, on the other hand, is an active processing—the cognitive selection, organisation, and interpretation of sensory information into something meaningful (Wolfe et al. 2014). *Attention* 'may be considered as an agency for bringing a stimulus into conscious awareness' (Gopher and Iani 2006), and *selective attention* is a discriminating focus of awareness on specific sensory stimuli while ignoring all other stimuli. Selective attention may either be overt (sensory) or covert (mental) (Manichander, Brindhamani and Marisamy 2015: 71). This distinction may reflect a difference in focus of attention on first-order sensory information versus third-order 'deep' meaning systems in ICS. Awareness comes in levels, from the preverbal (or tacit) at the lowest level up to conscious awareness as a high-level construct, reflecting the diffuse or focused attention in ICS (even though one can focus on implicit information). When I am claiming that somatic practices—through the particular pedagogical elements identified in the previous chapter—refine one's sensory perception, I mean that we are training our ability to focus our selective, overt attention on sensations, to bring them into conscious awareness, and to process them at a more subtle and refined level than we were able to prior to engaging with somatic practices.

6.1 Overview: Awareness and Perception

As stated in Chapter 5 on balancing inner and outer, Tufnell claims 'I'm always having to train my awareness,' or, in other words, her 'focus' on perception of both internal and external stimuli (Tufnell 2016a). Indeed, she claims that a use

of her somatic improvisation method is 'as training in perception' (Tufnell and Crickmay 1990: 45). I argue the repeated focusing of attention on sensory stimuli in Somatics is a form of training one's sensory perception such that one is able to discern an ever-finer level of detail. This refined sensory perception is paramount in dancemaking and performance. Indeed, as dance science and Somatics researcher Nancy Gamboian notes, 'By directing one's attention to the sensation of an experience, an awareness may develop. As sensory awareness develops with more clarity, an improved use of the body may evolve. This would be advantageous for dancers, since their mode of expression is primarily through movement' (1997: 5). Anthropologist Caroline Potter argues establishing such sensitivity is a 'means of becoming socialised into the professional dance community' (2008), while dance researcher Shantel Ehrenberg (2015: 51) claims a focused attention on physical sense of movement is viewed as a form of virtuosity in contemporary dance, and links training in this form of perceptual attention to Somatics (2015: 54-56).

As Gamboian implies, our sensory perception can be trained. Previous research shows that dance trains sensory perception (Bläsing et al. 2012, Legrand and Ravn 2009), and I argue that my research supports an assertion that Somatics likewise extends this perceptual training—potentially similar to dance-phenomenologists Legrand and Ravn's (2009: 394) extension of dancers' perception to that of non-dancers'; which is to say, I am not arguing Somatics creates perception *unavailable* to dancers (or non-dancers), merely that it may *increase* engagement in a particular way, and thus offers a potentially deepened perspective. For example, Olsen claims, 'our perceptual range becomes

progressively more limited. However, through information and experiential exercises, we can reinhabit our fuller potential […] our perceptual conditioning and habits can expand' (2002: 56). Likewise, Tufnell claims that 'dancers particularly are tuned to perceiving movement' and that 'dancers and artists with a somatic training develop a refined awareness of these fleeting changes in tone' (2017: 140, 112). This logically follows, as attending to bodily sensation is essential in dance, and further, that attending mindfully to sensory perception is a hallmark of Somatics.

This refined sensory perception, derived from engaging with somatic practices, is perhaps the most prevalent theme in this research. As Tufnell claims, 'dance is a kind of portal for me into awareness, into perception, into language, into imagination. Every aspect of perception, it seems to me, arises through the body. And so the dancing body is just a more refined way of accessing and approaching that' (2016a). In fact, I interpret that what she repeatedly terms 'widening the field' (Tufnell and Crickmay 1990, Tufnell 2016a, Tufnell 2017a, Tufnell and Crickmay 2004) is this refinement of sensory perception. Indeed, the titular *A Widening Field* primarily concerns itself with this as the central focus of Tufnell's improvisational somatic practice. I contend that 'widening the field' specifically refers to a deeper, more refined sensory perception (than might occur without somatic practices), because in her writing, Tufnell connects this 'field' to perception directly. For example, she states, 'By abandoning the narrowing focus of a fixed aim, [somatic] improvisation widens our attention to sensation, feeling, and impulse in the process of working' (Tufnell and Crickmay 2004: 289).

Tufnell is not alone in this repeated emphasis on awareness and perception. Reeve also emphasises the focus on sensory perception in somatic practices when she discusses 'environmental movement,' the training she developed (and furthered through her doctoral research) as the ninth 'lens' for viewing the body (2011). She claims that, 'Environmental movement training provides several tools that may be seen as developing "somatic modes of attention"' (2011: 48).[34] Situating the terminology in the psychological discourse (one with which Reeve, as a psychotherapist, is presumably familiar) then, this 'mode of attention' indicates a discriminating focus of awareness on specific sensory information. For Reeve, these modes of attention come from the perspective of the body, as situated in culture and environment, and differs from other such perspectives by its grounding in movement (2011: 48-49). This emphasis on movement as central ('the ecological body is situated in movement itself and as a system dancing within systems'), offers 'a perception of the world that is utterly different from the one that we are generally accustomed to,' according to Reeve (2011: 48). Here, too, then, at the centre of Reeve's practice is a shift, a deepening, in sensory perception. For her, this refined perception is a direct result of attending to the moving body, to subjective physical sensation—the key unifying element of Somatics as a field (ISMETA 2015).

During Reeve's retreat, I became aware of my own movement *in situ*—or Reeve might say, in 'constellation' with a variety of environmental factors. Moving in the studio, my preferences with regards to proximity and emotional/affective

[34] 'Somatic modes of attention' is a term used by Reeve but first coined by cultural anthropologist Thomas Csordas (1993), to argue for embodiment, as a product of culture and perceptual experience, as a methodological field.

reaction to other movers was prevalent. In a day of studio practice, I noticed small shifts in my physicality when I was comfortable, moving near a familiar friend, or uncomfortable, intimidated by the technical skill of a highly-trained and unfamiliar dancer near to me (field notes, 14.3.16). I became aware of a subtle difference in muscular tension, a shift in my own rhythms in relation to this emotional undercurrent. I also moved outside in a moment of one-on-one instruction with Reeve (field notes 18.3.16), in which she introduced me to her tools of point, line, and angle; active/passive; proportion; and transition/position. Within the ICS model, these lenses of perception might be thought of as switching between focused and diffuse attention (e.g. active/passive) and transposing multisensory information into higher-order meaning; for instance, position, proportion, and point, line, and angle engage a spatiopraxic awareness, which is then transposed into movement via the articulatory/effector outputs. In this one-on-one, I felt myself likewise engaging with the environment around me, my rhythms matching the wind in the treetops, the clatter of the construction crew, the texture of the ground underfoot. My perception, in both instances, began in my body but expanded to incorporate a variety of external influences, including sound, felt, visual, and auditory stimuli (mirroring multisensory input in ICS); and this practice grew my ability to shift my attention, to balance a 'kinaesthetic mode of attention' (Ehrenberg 2015), or directed awareness of internal stimuli, with external stimuli, and thus attend to multisensory perception on a finer level.

In working with Reeve, much of my attention was on how patterns manifested—in the environment, in my own movement—and how these related to deeper

meaning, such as my emotional state or how I viewed myself in relation to the setting or situation. Here too, this awareness can be traced through the building of affective (implicational) meaning within the *interacting* subsytems of ICS. This awareness of my situatedness parallels my experience of Olsen's work. Similarly to Reeve, Olsen sees movement as central to her contextual somatic practice. In my field notes, I recorded what Olsen named 'Basic Concepts' in her 'Body and Earth' practice:

1. *Body is Earth/humans are nature too*
2. *Bodies have intrinsic intelligence based on 3.4 billion years of evolutionary history. Earth has intrinsic intelligence from 4.6 billion years of evolutionary history/geological timescale*
3. *Movement is inherent—we don't create movement, we participate in a moving universe. (field notes 27.07.16)*

Working with Olsen outdoors during these *Body and Earth* workshops, I became aware of the ways in which the environment impacted my body and my movement, and I found myself embodying the rhythms of a passing stranger, the texture of a tree's bark, the form of a crack in the pavement. My focus shifted often between internal and external, between near and far, between organic and man-made. Olsen noted in the first week of this workshop that 'Perception is a construct,' and where you place your perception 'changes things' (field notes 1.8.16). She emphasised our abilities to shift perception between various anatomical systems, a practice in which I found a felt-sense of the differences between movement generated from awareness of various systems: a directness in skeletal movement, a looseness and sequentiality in fluid movement, an

unusually active and energised (for me) rhythm in neurological movement. This element of her practice illustrated her claims from our interview, in which she maintained that the specificity of anatomical awareness cultivated in somatic practices 'gives you landmarks to move through things' and that 'a lot of [Somatics] is training in body listening' (Olsen 2015). *Body listening*, I argue, is Olsen's way of paraphrasing a selective attention to, or conscious awareness of, sensory perception. Similarly to Tufnell's assertion of a 'widening field' or Reeve's claims of perception 'that is utterly different' as a result of this refining of sensory perception, Olsen notes that through Somatics, 'People […] can start to feel that there is movement inside of them that they didn't know about before' (Olsen 2015), which in my experience was evidenced by my greater capacity for movement patterning and sense of individual choreographic 'voice' strengthened through my encountering of Somatics.

These are only some ways in which Reeve, Olsen, and Tufnell each feature the refining of sensory perception in their somatic practices—there are far too many examples to provide an exhaustive list in this thesis. As stated, in my interpretation, this refined sensory perception is the central theme. In the data, it is not only integral, but pervasive; though I label it as 'key' in my analysis, it is also undeniably a *shared* finding across all of the data I collected. In an interview, Olsen (2015) mentioned that Authentic Movement allowed her to discover a sustained concentration—I would assert that in psychological terms, this would mean she enhances the ability to facilitate a continuous selective attention to sensory perceptions. Tufnell spoke of how her training in craniosacral therapy and Alexander Technique were 'both ways that enable me to listen more fully to

the body' and how somatic practices facilitate a 'focused […] attention, deepened body awareness' (Tufnell 2016a, Tufnell 2017a: 27). In my interpretation, this concentration, awareness, and Reeve's 'somatic modes of attention' (2011: 48) are all various ways of verbalising a refinement, or deepening of ability to attend to, sensory perception. My interpretive analysis (informed by my own experience with Somatics) of this data set looks for meaning, not semantics, and concludes the difference in terminology—which, as noted previously, is prevalent throughout my experience of somatic practices—does not indicate a difference in intended meaning but rather reflects the indiscriminate usage of these terms within a dance or Somatics (and, indeed general usage) context. I conclude then, that one facet of this thesis' contribution is the linking of these pan-Somatics concepts to the precision of these concepts within the psychological discourse. In this interpretive analysis, I thus not only became aware of the *prevalence* of data extracts which constellate under the theme of 'refined sensory perception,' but also of its centrality to the development of choreographic creativity—namely, I argue that this refinement of perception allows for more specificity (and thus diversity/divergence) in movement generation and also facilitates connection to personal meaning, the outcomes of which will be discussed in the following chapters. So, now that I have shown that refined sensory perception *is* a shared theme, the question remains: *how* are these practices refining perception? The following sections identify some communal ways in which I propose Somatics practitioners are training perceptual ability as a means toward developing creativity—or, as Olsen named in an interview, how Somatics is 'a kind of psychological or perceptual [training],

how you set up the body in time […] your focus of attention […] setting the conditions to create' (Olsen 2015).

6.2 Subtlety

My research argues that attending to the body allows dancers to refine not only their sense of embodiment, but also their perceptual ability. This 'refining' implies the ability to discern between sensory input on a finer level. This awareness of subtle differentiation, in psychological discourse, may mean lowering a difference threshold (the smallest amount of change in any medium needed to perceive a difference), particularly for dancers of proprioceptive, interoceptive, and kinaesthetic stimuli. So, just as a singer might lower their difference threshold for changes in pitch, a dancer might lower their difference threshold and become more discriminating toward changes in position, muscular tone, or organ-ic sensation. It is my contention, then, that within these artists' (and my own) practices, a somatic, body-based improvisational practice is the training agent for widening attention and deepening perception at this level of fine discernment.

Tufnell highlights this ability to discriminate between subtleties, and connects this discrimination, or refinement, to the ability to discover options (or affordances, as discussed in Chapter 5), when she states, 'We discover the subtle distinctions between things and explore how they may come together in their differences. *The more we discriminate*, the more choices we have available to us' (Tufnell and Crickmay 2004: 69, emphasis mine). And again, in the introduction,

her book, *A Widening Field* is dedicated to 'a specific intent: to give *greater precision* and breadth to the way one experiences one's own body from within' (Tufnell and Crickmay 2004: xvii). Here I interpret *discrimination* and *precision* as an ability to discern subtle differentiation in sensory stimuli. Key here is the focus on the experiencing of one's body *from within*, which is the central tenet in somatic practices, or as Reeve terms 'a somatic lens' (2011: 17-22).

'As we become aware of the feel of the body, its weight, breath, and the flux of sensation moving on its surface or welling from its core, we may begin to sense the small "dance" within our tissues—the silent language of the body's voice,' notes Tufnell (Tufnell and Crickmay 2004: 45), identifying the smallness, the specificity of the level of perception required to recognise and choose one's individual artistic 'voice.' 'The world of the body is subtle and complex' (Tufnell and Crickmay 2004: xvi), she claims; this sense of subtlety is reiterated by Eva Karczag, a somatic practitioner whose work is highlighted in *A Widening Field* (Tufnell and Crickmay 2004: 136), when she states, 'The more one knows about the body, the more precise, the more subtle the [movement impulse, or] question can be.'

Olsen's somatic practice of embodied anatomy is one way for a dancer to come to know more about the body's subtlety and complexity. I argue that Olsen also emphasises selective attention through focusing on different body systems. In my field notes (27.7.16), I identify the following anatomical systems as foci for various days, or different exercises on the same day, of her *Body and Earth* classes: *tonic system, skeletal, organ-ic, air, fluid, muscular, animal/evolutionary,*

and nervous system. To discern between internal sensations stemming from these systems requires a level of expertise—e.g. to have trained cognitively such that the fidelity of internal sensory information is retained at a very high level as it is transposed from sensory input to our higher-level awareness in the ICS model. In our interview, Olsen also noted this expertise, stating somatic practice 'clarifies your body. So every practice has a way of opening a part of you […] And I also feel like every somatic practice is working in a different range of body-system […] like the Skinner Releasing Technique or Feldenkrais is very nervous system' for example (Olsen 2015). Tufnell, Karczag, and Olsen each represent perspectives from different somatic practices, and Olsen's acknowledgement of additional practices (Skinner Releasing Technique and Feldenkrais) further evidences the pervasiveness of this theme, e.g. it illustrates a pan-somatic-practices emphasis on attending to subtle perceptual differences.

Indeed, this is the case with Tufnell's practice—the act of creating is a process of bringing greater awareness of sensory detail. As she notes,

> Creating in touch with sensation and feeling in the body awakens us to the sensuous detail of the material world […] it is *this attention to detail* that opens and loosens the field in which we perceive things. […] Forming or creating things that move us changes and expands our perception. (Tufnell and Crickmay 2004: 41, emphasis mine)

The subtlety is discovered through an attentiveness to the detail of the moving body in Somatics. Reeve similarly notes, 'somatic practitioners are *trained in the perception of minimal movements* and flow in relation to the body moving through the environment' (2011: 24, emphasis mine). Likewise, Olsen also claimed, 'there's the part [of making] that's just really subtle,' and noted the *specificity* of awareness given by somatic practice (2015). Precise, minimal,

detailed, subtle, specific: again here, I note difference in vocabulary but similarities in intended meaning through my interpretive analysis. This indicates, in my data, that the refinement of sensory perception occurs in Somatic Movement Education through an attention to subtlety, to minute-but-important differences in sensory stimuli. And, as these excerpts illustrate, this attending to subtlety *is* a shared objective in somatic practices. In my experience, perceiving stimuli starts through sensing from within the body, but as the practice deepens, perceptual attention extends out into the external environment as well—remember that a mutual pedagogical focus is on connecting to self, to other, and to the environment and on balancing inner and outer awareness. Tufnell echoes my experience as she states, 'In moving we come back to the body—it helps us to feel through our senses again' (Tufnell and Crickmay 2004: 43). Furthermore, for Tufnell, this connection to sensory perception, in the body and the environment, leads toward movement generation. She claims, 'As I move out of my head and into my body, I begin to notice not only the details around me and my physical state, but also, impulses to move, as my body responds to feeling and sensation' (Tufnell and Crickmay 2004: 47). Thus, the refining of sensory perception through awareness of subtlety has a direct link to choreography—this specificity, the detailed perception, opening up more avenues for movement generation.

6.2.1 Slowing, Softening

It was common in my fieldwork to begin by slowing down to sense more deeply, and softening physical tone so that differentiation was perceivable. Many

somatic practitioners[35] have claimed that tension masks sensation, or, as modern dance pioneer and predecessor to the somatic disciplines Erick Hawkins stated, 'tight muscles cannot feel. Only effortless, free-flowing muscles are sensuous' (Hawkins 1992: 69). Similarly, Tufnell states, 'softening and relaxing wakes up a greater capacity for noticing what is going on inside and out' (2017: 28). As Olsen notes, this practice of slowing and softening is a shift from the daily over-engagement of our 'fight or flight' sympathetic nervous system and into the calmer, parasympathetic system. She states that Somatics 'is stimulating the parasympathetic nervous system enough so that real creative work can take place,' (Olsen 2015)—indicating here the direct link between slowing and softening and creativity. I argue this slowing facilitates a refined sensory perception, providing the link between slowing to sense and creative movement generation.

My field notes from Tufnell's workshops repeatedly observe 'taking time' and 'giving time' as an element threading throughout the workshops—both in utilitarian terms (e.g. allowing lengthy arrivals and settling before beginning) and in physical terms (allowing the body to rest and settle). For instance, my

[35] I claim here that 'many' have said this, due to my own recollection of being in a range of Somatics contexts in which this or a similar concept was asserted. This claim is also evidenced in a non-public Facebook conversation began by Somatics practitioner and researcher Susan Bauer, who posed the question of who ought to be 'credited with the famous quote: "tension blocks sensation"?' Responses were many and varied, and included claims that Erick Hawkins, Peggy Hackney, Nancy Stark Smith, Bonnie Bainbridge Cohen, Moshe Feldenkrais, Steve Paxton, Irmgard Bartenieff, and others said either the quote directly or some version of it with a similar meaning. The reference to tension as a hindrance to sensation, then, appears to be pervasive within the field of Somatics. I cited Hawkins here for the precise direct quotation and because he was the most commonly cited amongst the responses.

notes after the first dyad work are titled 'Taking time – Responsive/Responding' and start:

slow

listen

rest

breathe

settle (field notes 10.6.16).

Tufnell writes about 'the value of stillness in creating a sense of possibility' (2017: 27), connecting to novelty and creativity through increased options. She states, 'time to settle and get comfortable in the body, time to notice sensation, frees the mind from habitual ways of thinking about events or problems' (2017: 27).

Reeve's work also emphasises slowing and softening, wherein she encourages relaxation, but differentiates it from collapsing—a distinction which allows for greater sensory perception and refinement rather than a 'mush' or 'melding' wherein sensory stimuli gets blended together (field notes 7.2.16). Often in Reeve's workshops, slowing was heightened and became stopping, in order to more keenly sense ourselves. We were repeatedly asked to 'Stop. Notice your position. Relax within your position.' (field notes 14.3.16, 17.3.16, 6.3.16, 7.2.16, 7.7.17). She claims '"stillness" or "stopping" as pauses in the line of movement' is 'a key factor' of her practice that offers new perceptions (novelty). Researching Reeve's work, Paula Kramer also notes the importance of slowing/stopping and softening. She states,

> relaxing is not collapsing but rather a practice that fosters the dancer's ability of being aware of his or her form and position in the space without hardening or restricting one's movement and emotional capacities. The emphasis here is on relaxing and opening towards what is, so that a deeper emotional and sensory response from one's own body is possible. (2015: 92)

Here, Kramer notes that 'a deeper […] sensory response' emerges from this practice of softening—she further states that slowing and stopping in Reeve's practice allows for noticing 'physical patterns of holding or tension. As these tensions soften, more sensory information becomes available to the dancer' (2015: 93). Similarly, dance science pioneer Martha Myers claims that, softening and slowing, i.e. 'Reducing unnecessary muscular activity, whether through breathing, imagery, progressive relaxation, or other means is considered essential in [somatic] work, not only to refine sensory perceptions, but to recognize total body patterns and the intricacy of their interconnections' (1984: 169). Clearly, Olsen, Tufnell, and Reeve each value such subtlety and softening; both Kramer and Myers' perspectives mirror and extend my argument that this is a vital tool in refining sensory perception more broadly within somatic practices.

6.2.2 Reducing Emphasis on the Visual

Working with eyes closed is another tool, common to many somatic practices, which appeared across the data as a sub-strand of refined sensory perception as 'a very effective way both of awakening the body to sensation and of getting to know a place' (Tufnell and Crickmay 2004: 133). This contrasts with typical reliance on visual perception over other senses: 'I dance eyes closed, I don't walk eyes closed,' Tufnell notes while leading a workshop (field notes 11.6.16). In

Somatics, working with eyes closed is often used to quiet this dominant sense to allow for engagement with non-visual senses such as feeling or hearing—a practice which I argue trains our awareness of multimodal sensation and thus refines sensory perception.

The invitation to practice with eyes closed, or with a soft focus, was encouraged throughout Tufnell's texts (for example, Tufnell and Crickmay 1990: 80, Tufnell 2017a: 27; Tufnell and Crickmay 2004: 51), in Tufnell's workshops, as well as during the one-on-one retreat. In the workshop, perhaps most notably, Tufnell led an exercise of 'blindfold walks,' where dancers led a blindfolded partner; followed, themselves blindfolded; and danced together, both blindfolded and sighted in turn (field notes 11.6.16). Similarly, in my individual retreat, Tufnell offered a period of moving and witnessing while practicing outdoors in woodlands (field notes 21.6.16). As I moved in relation to a giant tree, I felt droplets of water rolling off my fingertips, the shift of my weight, the roughness of the bark, and the soft, spongy texture of moss as I transitioned from tree branch to ground. With my eyes closed, these sensations took priority, altering my movement and allowing me to discover new pathways directed by non-visual stimuli. Here, I found confirmation of Tufnell's claim that, with eyes closed, stimuli 'from outside and from within […] calls to and changes my awareness and my moving' (Tufnell and Crickmay 2004: 51).

As is customary in Authentic Movement practice,[36] in Olsen's 'Moving and Writing' course, dancing with eyes closed was the norm. When she introduced Authentic Movement to the '*Body and Earth*' course, Olsen noted that it was different to improvisation, saying that in improvisation one trusts that everyone has reflexes, but moving with eyes closed shuts down some of these reflexes (field notes 3.8.16). This was presented as a safety concern, but also points to the ways in which working eyes closed opens the prospect of novel movement by subverting reflexive choice-making; it also reinforces how eyes-closed practice subverts the dominant visual sense to engage lesser-used conscious perception modes.

Though Reeve explicitly encouraged me to open my eyes—my field notes (3.5.16) record her directing me, saying 'Eyes on the horizon, if you can bear it'—the focus was on not allowing the visual to dominate, but practicing how to allow visual stimuli to exist in tandem with, balanced with, other non-visual stimuli. I realised that the common eyes-closed practice allows me to further refine my non-visual sensory perception, so that I can then bring them into balance with the typically dominant visual perceptual awareness. For me, this deepening of sensory perception is an advanced practice, once the other perceptual abilities have been deepened through eyes-closed somatic practice. My field notes from Olsen's '*Body and Earth*' course (27.7.16) note that being attentive to the environment in movement becomes the 'layering of things—focus, attention, etc.' I understand that this environmental attention was a progression from the previous week of practice; although most of Olsen's students were new to

[36] See Chapter 4.

Somatics, in the context of her intensive 'crash course' in somatic practices during the Bates Dance Festival, this suggests to me that it is a theme to follow the initial emphasis on felt senses. By which I mean, the ability to balance visual and felt attention is an advanced development in training sensory perception, a level of greater expertise. Here, then, the suggestion is that the Bates dancers are aiming towards this layering, not that they have achieved an expertise—rather, the practice of attending to sensation with eyes closed lays the groundwork for being able to balance awareness of visual sensory stimuli with non-visual sensory stimuli, and thus offers a refined sensory perception through Somatics training.

6.3 Other Senses

As noted above, 'vision can dominate over proprioception and touch' in general bodily perception (de Vignemont 2016), and an attention to subtlety in sensory information necessarily requires selective attention, e.g., to discover finer detail means to focus in on specific, high-level sensory constructs. Though most the above examples of refined sensory perception primarily focus on the stated aim of Somatics, namely to sense the moving body from an internal, first-person perception (Hanna 1970, ISMETA 2015), first-person perception involves *all* sensory modalities. Thus somatic practices provide space for giving primacy to other sensory forms, often through feeling rather than seeing. For example, Tufnell notes, 'As I close my eyes, I feel more clearly where I am, and notice more particularly what is touching me. With eyes closed, I wake up in other senses, letting go the familiar ways in which I sense things, compelled to listen to the

present moment of what is happening within me and around me' (Tufnell and Crickmay 2004: 51). Here, 'listening' can involve auditory and other senses, and is perhaps best understood as attending to the present through multimodal perception. She notes that the instruction to 'listen' is better understood to mean 'to attend to,' stating:

> Beyond purely auditory, the word ['listening'] is mainly used to evoke a broadly receptive and open state of attention—'listening' with all the senses. Being able to be present and open to what is happening in the moment—in our surroundings, or in the body, or coming to us as an impulse—is one of the crucial themes [of Tufnell's work]. (Tufnell and Crickmay 2004: 289)

Indeed, she claims the work 'could in fact be characterised as a "listening" approach to living and creating' (Tufnell and Crickmay 2004: 289-290). This was also my experience in working with Tufnell, where, for instance, on my individual retreat, such 'listening' meant attending to the sound of wind in the leaves, the squishy feel of moss on a tree, the smell of petrichor as I moved on and beside an ancient tree. These are but a few examples in which my data set asserts somatic practices offer experiential training in sensory perception through non-visual senses beyond the 'felt' senses of kinaesthesia, proprioception, and interroception.

In practice, giving primacy to non-visual perceptual modes may mean attending to a specific, and perhaps neglected, sensory input—for example, Reeve's (2011) hypothetical case study in *Nine Ways of Seeing a Body* repeatedly mentions directing attention away from visual and toward auditory input. In my experience, Reeve facilitates this in what she calls 'guidance' (Reeve 2011: 30) during workshops by modelling the generation of sound while moving (field

notes, 6.3.16). She may shift from moving with the group to vocalising or playing drums, a choice which I found led my attention away from an emphasis on the visual or kinaesthetic toward auditory. As Reeve stated, 'somatic awareness' to her means awareness of the 'reality world, kind of the texture and smell, everything that happens through the senses' (Reeve 2016a). Here, Reeve notes smell and texture (which, in my experience of her work is not limited to a *felt* texture but also awareness of multisensory 'textures,' such as visual, kinaesthetic, or auditory). Similarly, Tufnell coaches movers to attend to 'Sight Taste Touch Sound / Reflecting through the body / Letting the body open in the branching of the senses / Noticing the boundaries' (Tufnell and Crickmay 1990: 40).

In my field work, my experience was that Olsen's work was the most grounded in feeling-senses; in an interview she states, 'I try to stay with the kinaesthetic as much as I can,' noting that she can be an overly 'think-y' person, and this emphasis is a way of keeping that tendency in check (Olsen 2015). Still, though her Authentic Movement practice is, in her words, a way to 'keep investigating that inner landscape' (field notes 3.8.16), her *Body and Earth* practice is where I found the most connection to other sensory modes. For instance, in the 'Place Scan' section of her workshop, we were encouraged to notice 'earth, air, water, plants, animals,' which was a directive that brought the smell of the grass, the sound of wind in the trees, or dogs barking to my attention (field notes 27.7.16). In the third week of the *Body and Earth* practice, Olsen introduced mirroring (inspired by Prapto's practice), which explicitly included the options to mirror in shape, tempo, and sound (field notes 1.8.16).

These are just a few examples of how attending to non-felt senses is encouraged; in each of the artists' practices, it is through an awareness of the situated-ness of one's self and one's body which brings this multisensory awareness in to focus. And it is through this multimodal, multisensory awareness, that dancers are able to further refine their perceptual abilities—not only deepening a feeling-sense of their body-in-space and in movement, but layering that with other sensorial input to further refine their perceptual ability.

As Tufnell claimed in our interview, creativity in dance necessitates this multisensory perception, not only of our bodies but also this situated-ness, of the material world around us—or as she stated, being 'very present to the world. […] And I think the whole thing about creativity is it's very connected with the matter of the world' (2016a). I agree, as multimodal imagery is hypothesised to contribute to creative movement generation (Anon. 2015, May et al. 2011), and some research shows that lower levels of latent inhibition (or not being able to selectively 'tune out' stimuli) (Peterson, Smith and Carson 2002) or a 'leaky' (or broadened) sensory perception may contribute to creativity (Zabelina et al. 2015). Our ability to stay broadly open, but opt to selectively attend to multisensory awareness is how we refine the skills to attune to subtle differentiation. Likewise, the ability to 'home in' on stimuli from a broad range of options is how a suitable creative option is selected—a process of 'selective

retention' in the BVSR model or the 'exploration' in a geneplore model,[37] evidencing the secondary 'useful' criteria for a product to be considered creative.

6.4 In-the-Moment

Related to developing a multisensory focus through an awareness of our situated self is the practice of training sensory perception *in the moment*. Sensory perception is being cognitively processed in the moment, not only through a post-movement reflection. The perception of sensory stimuli in the movement moment is a form of mindfulness. 'Mindfulness' can be considered a focused attention in-the-moment. This focused attention (e.g. housing attention or buffering within one subsystem in ICS) is trained through somatic practices' emphasis on constant, conscious attending to present sensory information.[38]

This attention to in-the-moment sensory stimuli was evidenced in each of the artists' reflections on their practice. For instance, Reeve stated,
'When I enter somatic awareness, it's as though I'm really in the field of sensing the materiality of quiddity. The quiddity, the as-it-is-ness of what's around me and of myself' (Reeve 2016a). Here, her emphasis on the 'as-it-is-ness' is a reflection of the in-the-moment attention—not sensing retrospectively, or imaginatively (though sensory inputs may lead to imaginative association), but rather attending to the current materiality of one's moving body and its

[37] The Blind Variation and Selective Retention and the geneplore models were introduced in Chapter 2.2.
[38] I discuss this topic more in-depth in relation to my theory of how sensory perception is trained through cognitive processes in Chapters 11 and 12.

environment. This can be likened to the practice of speaking perceptions as you walk/dance from Olsen's workshops (field notes 27.7.16, 2.8.16), or her practice of 'noticing what you notice' (a stated *Body and Earth* tenet—field notes 27.7.16)—a practice which trains metacognitive awareness of one's in-the-moment perception. At one point, Olsen said that her Authentic Movement-based process involves 'noticing things, and then seeing' what deeper meaning they hold, indicating the immediacy of perception, its primacy over higher-level processing in directing a creative process (Olsen 2015). Likewise, in our interview, I discussed with Tufnell how she began a workshop by following our gaze before noticing what we were viewing, how it affected us physically, or what meaning we might ascribe (either to our perspective or to the object of our gaze) (Tufnell 2016a, field notes 10.6.16). Tufnell said that for her, the 'first thing [in her choreographic process] is probably to mine what is rising,' indicating that her choreographic practice also begins with in-the-moment perception, followed by a subsequent meaning-making, e.g. 'mining' to go deeper and explore the emergent meaning of movement (Tufnell 2016a). Similarly, Reeve noted that a benefit of somatic practices is 'cultivating the capacity to calibrate within one's life, within one's artistic practice' and noted significantly that 'to calibrate is different from feedback […]. Feedback happens afterwards, and calibration happens in the moment' (Reeve 2016a).

Thus, in-the-moment perception appears to be integral in these artists' perspectives to facilitating creative responses in dancemaking; Tufnell (2016a) discussed the importance of avoiding fixedness in dance, to engender imaginative and creative responses in both life and artistic practice. She stated

that to do so, we must not lose, 'that canny alertness to the ordinary situation you're in: how do you feel to that? How do you respond to that? […] I mean—to be able to say YES to what is, and to sort of love it for what it is.' Here, too, I would argue that Tufnell and Reeve are pointing to the same as-it-is-ness, a mindful approach to perceiving openly, broadly, in the moment of dancing. It is also my experience that, when moving, if an open, mindful approach is taken to all incoming information, including physical sensation as well as emergent association, affect, or memory, I feel my movement enlivened and my responsiveness electrified as I am able to perceive more options in my body and environment. This mindful attending is to sensing-feeling not thinking, direct perception not cogitation. Indeed, Tufnell notes that the uses of such an improvisation practice include: 'as training in perception' (Tufnell and Crickmay 1990: 45). In an interview titled 'Training Perception,' choreographer Steve Paxton (Paxton and Steijn 1999: 6) appears to agree, noting that 'there are thousands of choices, whereas before there were maybe dozens' if he attends to sensation rather than being driven by his 'conscious brain.' Being present in the moment also allows for me to track my improvisational movement, that I may further reflect on it to deepen my understanding, or retain particularly relevant or novel movement patterns or sequences for use choreographically. This in-the-moment-awareness is therefore essential to the creative impulse in Somatics-based choreographic practice. Sensory stimuli are presented in-the-moment, and it is only through this in-the-moment, mindful attending to them that we deepen and refine our ability to perceive subtlety in sensation, a 'focused […] attention, deepened body awareness' (Tufnell 2016a, and Tufnell 2017a: 27) that is able to discern fine differences between sensations.

6.5 Linking Refined Sensory Perception to Creativity

For each of these artists, situating the body as movement in a somatic practice—attending to perception rather than adhering to a pre-set form—facilitates a shift into creative movement generation, to allow one to 'shape our dances to reflect' that unique sense (Tufnell 2016a). This chapter has illustrated how experienced artists working with somatic practices reject dominant paradigms or cultural emphasis on objective, external aesthetics in favour of a first-person, subjective and felt sense of the moving body. In doing so, somatic practices have expanded not only my, but each of these artists' range in movement generation. The attending to, and subsequent refining of, sensory perception is the product of Somatics pedagogical practices, and the bridge into meaning- and intentional choice-making in somatic practices. This refining of sensory perception may be expressed in different ways—from Tufnell's widening field of perception, to Reeve's environmental lens' deepening perception of the moving body, to Olsen's *Body and Earth* shifting perception through the moving body.

The refining of sensory perception is facilitated in somatic practices through a number of different tools. Firstly, an emphasis is placed on subtle distinctions, and an ability to differentiate between sensory input on fine levels to discover a broader range of options in one's movement 'vocabulary.' Discovering these small, subtle alterations can generate a sense of freshness, newness, and change. Tufnell and Crickmay emphasise this subtlety when they repeat similar questions in *Body, Space, Image,* asking: 'What is the smallest change to make a

familiar position unfamiliar?' and 'What is the smallest change that will alter the whole?' (Tufnell and Crickmay 1990: 59, 127). This chapter has shown the importance of discerning subtle differences across the Somatics paradigm not only in Reeve's (*Move into Life*), Olsen's (*Body and Earth*, Authentic Movement, Embodied Anatomy), and Tufnell's (Embodied Anatomy, Craniosacral, Alexander Technique) somatic practices, but also in Eva Karczag's (Alexander Technique, Ideokinesis) and Olsen's experience of other somatic practices (Skinner Releasing, Feldenkrais). I argue that Somatics brings awareness of subtlety through slowing and softening and practicing a reduction in emphasis on visual stimuli before one balances the visual with the non-visual.

The reduction in visual input correlates with an increase in attending to non-visual stimuli. Though the emphasis is often on felt senses—such as proprioception, kinaesthesia, and interroception—in Somatics, the first-person subjective perspective, and reduction in dominant visual perception, also allows for a deepening in non-visual, non-felt sensory perception. I illustrate how multisensory perception, including auditory, smell, taste, and so on, is encouraged by each of the artists and enhanced by attending to the situated body, allowing awareness of multimodal stimuli to take conscious priority and to affect embodied movement generation.

Lastly, these artists emphasised in-the-moment perceptual awareness as a tool to refine sensory perception. Rather than a reflective consciousness of stimuli, Reeve, Tufnell, and Olsen's practices incorporate mindful selective attention paid to sensory stimuli as they occur concurrently with a dancer's movement.

Reflection and meaning-making happens after direct, in-the-moment perception, and permission—and emphasis—is given to consciously attend to perception as primary. I recall this in my own experience of the workshops and intensives delivered by each of the artists, and they all noted that it was the first step in their creative choreographic process. Thus, I maintain that the ability to process and discern subtle, fine differences instantaneously while moving is the mark of a refined sensory perception—and one that ultimately leads to creative movement generation and novel meaning-making within Somatics contexts, which brings me to the next theme to be discussed—novelty and awareness of habit.

CHAPTER 7. NOVELTY AND HABIT

Refined sensory perception both facilitates an *awareness of habit* and allows dancers to consciously choose to disengage from habit in order to discover *novelty* in movement—bringing me to this chapter's key themes. Psychologist Arthur Koestler, defining creativity, claims, 'Habits [. . .] reduce man to the status of a conditioned automaton. The creative act, by connecting previously unrelated dimensions of experience, enables him to attain a higher level of mental evolution. It is an act of liberation—*the defeat of habit by originality*' (Koestler 1964: 96, emphasis mine). Thus, these two themes are closely linked, and perhaps overlap, as indicated by the double line in my visual depiction of themes (see Appendix 1). Koestler was not the only psychologist to define creativity in terms of habit and novelty, however; as noted in Chapter 2, novelty is broadly recognized as a defining criterion in creativity research. There, creativity is thought of as novelty and selection (either mentally, as in Simonton's model, or socially, as in Csikzentmihaly's), or novelty and usefulness/utility (Sawyer 1999: 449)—indeed, the 'selection' process generally implies some level of use, either for the individual, the problem at hand, or society at large, whether that use is utilitarian (e.g. in the invention of a new product or insight which furthers a field) or enriching (e.g. enhancing a quality of life) (Nickerson 1999). Regardless, in any definition, *novelty* is an essential component.

So, novelty is integral within creativity research as a field, but was it important to the artists working in Somatics-based choreography in my research? Indeed, *novelty* emerged as a key theme in my analysis. As Olsen wrote, 'There are two qualities necessary as an artist: fidelity and originality […] because you are

making something new, something never experienced before' (Olsen 2013: 142). Though the psychological literature doesn't always associate novelty with habit as explicitly as Koestler does, it is widely accepted that creativity involves non-habitual ways of thinking. Indeed, divergent thinking—or, as Tufnell states, to 'push yourself beyond 1st 2nd 3rd thoughts / into unfamiliar territory' (Tufnell and Crickmay 1990: 117)—is commonly used as a measure of creativity. In my data, novelty was often (and perhaps more frequently or explicitly than in the psychological discourse) closely linked to the related concept of habit. This chapter begins with the artists' perspectives on novelty, and then discusses how habit appeared in the data, both reaffirming its role in psychological theories of creativity as well as problematizing the idea of creativity as 'defeat of habit.' As my analysis was inductive, related ideas around 'change' and 'the unknown' are included in the key theme of novelty/habit, and I will close with a discussion of these.

7.1 Novelty and Habit: Artists' Perceptions

Novelty, habit, originality, change, and the unknown appeared throughout my data. These and other related ideas are grouped together in my analysis because of their close (inter)relation, both as concepts and within the data excerpts: this parallels the fact that, though the 'novel and useful' definition is widely accepted (Amabile 1996, Campbell 1960, Kaufman 2016, Kirsh et al. 2009, Koestler 1964, Runco 2007, Sawyer 2012, Sternberg 1999, Stevens, Malloch and McKechnie 2001), even within psychological research, alternative terms have been used, such as substituting *utility*, *appropriateness*, or *valuable* for *useful*—and *unusual*

(i.e. Guilford's 'Unusual Uses Test') *original*, *unexpected*, or *innovative* for *novel* (Sawyer 2012, Sternberg and Lubart 1999, Ward, Smith and Finke 1999). Reeve exemplifies the interrelation of these concepts when, in the following quotation, she combines reflections on habit, change, novelty (or 'new movement'), and the unknown ('seeing what arises' rather than forming some known parts into a whole). She states,

> Habitual characteristics and tendencies become apparent in my movement patterns: they are movements which repeat themselves through changing environments. With awareness, I contend, these can be accepted and then transformed by adopting new movement preferences or releasing the tension of a particular pattern and seeing what movement arises. (2011: 50)

In my experience in each of their workshops, I discovered greater awareness of my habits, both of thinking and moving. My field notes (6.2.16) record this, stating: 'Novelty is very easy to find/feel/identify in somatic practice; one can feel when some movement—for me always[39] in the transition—is something I've not done before. […] Transitions such as these are usually the result of problem-solving physically, not something I can envision or foresee.' Generally, in Reeve's workshops I became very aware of my habit to turn my focus inward when working somatically. The emphasis in her work on balancing inner and outer, because, as she claimed, 'Our context influences us as much as our inner life' (field notes 6.2.16), challenged me to maintain a connection to my inner felt sensations as my eyes remained open, aware, and focused on the outer. After another workshop with her a year later, I wrote, 'It is funny to do these lenses in such a familiar space—to challenge the meaning of them and the familiar ways of interacting,' creating novelty even in my relationship with spaces well-known to

[39] Though my field notes, presented verbatim here, say 'always,' upon later reflection I would amend this to say often, and most powerfully, rather than *always* or only.

me (field notes 7.7.17). In Tufnell's workshops, my field notes (11.6.16) observe my habits around 'vulnerability and self-judgment,' and my 'awareness of edges and resistance to go' into the unknown and novel. I mentioned previously how the various biological systems Olsen introduced allowed me to find more range in my movement generation, facilitating an awareness of my habitual tempos and the like. Like in Tufnell's workshops, in my field notes from Olsen's workshops, awareness of my habits of self-judgment (27.7.16), and 'finding my [creative] edges' (1.8.17) came into the forefront. On a more physical level, in those classes, I discovered my habit of holding tension in my jaw, and found newness in performing without this pattern. Though the specific habit, whether physical, mental, or emotional, may have differed, the discovery of habit, and ability to change the habit and find novelty, infused my experience of these artists' various somatic practices. To quote Tufnell (2016a), 'life just *is* creative, except that we really seem to get stuck in habits, we human beings. And how can we free ourselves from those habits, habitual ways of looking, thinking, seeing, speaking?' Perhaps the answer is somatic practice; my research considers each of these artists' perspectives as a potential answer to this question.

7.1.1 Tufnell

For Tufnell, 'the creative space of art making offers a context where we can begin to find a new coherence,' where 'unforeseen possibilities and directions begin to emerge' (Tufnell 2017a: 159, 127). This newness, the unforeseen—novelty—permeates her approach to Somatics-based artmaking, and this 'new coherence' echoes combinatorial theories (in which creativity is a process of connecting two

previously unrelated things, such as analogical thinking [Runco 2007], Mednick's [1962] associated thinking theory; or Koestler's [1964: 35] bisociation process). In Tufnell's work, much creative discovery of novelty occurs through engaging one's image-world, or what she calls 'imaginative originality' (Tufnell 2017a: 41). When I asked her how she identifies a work as creative, Tufnell connected the novel—'change'—with an awareness of possible choices (Tufnell 2016a). To uncover novelty, to find 'new possibilities, finding new directions' (2016a) and facilitate change, for Tufnell, begins with the somatic practice of tuning in to our physical selves. Additionally, she claimed that novelty is a product of expanding our perceptual awareness, attending to both what is inner and outer, rather than relying only on new combinations of our current or habitual sensitivities. She states,

> To know more of what is going on within us is not a matter of rearranging the all too familiar furniture of our thoughts, but about entering the world differently, opening our eyes and ears and tuning ourselves to different frequencies, textures, and details. It involves listening, exploring, and getting to know the many selves and voices at play within us. (Tufnell 2017: 145)

In my interview with Tufnell, she noted that for her, these habitual ways of operating were at one point aligned with the more traditional and codified forms she began studying when she came to dance; likewise, dance scholar Susan Foster (1992: 493) discusses how technique training marks an individual's body and movement patterns, while Ann Cooper Albright (1997: 54) also identifies 'the cultural ideologies that are literally incorporated into contemporary dance' and the dancer's musculature, pointing to how these patterns are not only physical, but mental. For Tufnell, dancing somatically was a pathway to awareness of those ingrained patterns, to change, and to uncovering novelty and

more range. She states that somatic practices are about 'the whole idea of not training *in* a movement, but training to be available to a movement' (Tufnell 2016a). 'It's a challenge to be real to whatever is present within the body. And with that comes a certain kind of freedom, a certain freeing from conditioning,' she claims (Tufnell 2016a). This conditioning may be in the form of particular dance techniques, but is also, as she states, 'a freeing from all kinds of strictures, containments that arise from the moment we move into public spaces' (Tufnell 2016a). In public, she claims, 'we are shaped by expectations,' meaning our sociocultural conditioning around how we permit ourselves to move and be in our bodies' (Tufnell 2016a). Somatics, for Tufnell, is beneficial in escaping these expectations and discovering our individual authentic ways of moving, of being in the world.

7.1.2 Olsen

Escaping expectations, discovering novelty, for Tufnell means to, 'Let the work stay on an edge of discovery and uncertainty […] the unfamiliar often lies close to the familiar' (Tufnell and Crickmay 1990: 89, 111). This liminal space between the known and unknown, between the normal and the novel, was also integral to Olsen's understanding of creativity. When asked to define creativity, Olsen stated, 'For me, creativity is exploring the edge-zone,' and likened it to environmental eco-tone—or two overlapping edge-zones where there occurs 'a higher potential for diversity of species' (Olsen 2015). This diversity is analogous to divergent (increased or unusual) movement and thinking patterns. She claims that 'you're on that line between [everything you know and] everything you

don't know, and you're existing in that space where you're sustaining not-knowing. That's heightened potential for discovery' where 'something can come through that you haven't experienced before'—where newness can emerge (Olsen 2015, emphasis original). Indeed, in field notes (1.8.17) from her workshop, I wrote that I discovered 'my creative edges' and found 'the boundaries clarif[ied]' and thus could be explored. In Olsen's perspective, in creative works, 'you feel that investigation and curiosity,'—discovery of novelty in a work is a sense of 'emerging possibility' (Olsen 2015). To know where that liminal space is, though, one must first be aware of 'underlying patterns' (Olsen 2002: 11-38), habits of movement and 'patterns of mind' (Olsen 2002: 39).

Remarking on the importance of novelty to creativity, Olsen explicitly stated, 'novel meaning *to you.* And […] not to the general person' (Olsen 2015, emphasis original). She links an awareness of novelty to one's unique individual biology, stating,

> my interest here is related to the amygdala—that part of the limbic brain that registers anything new. It's called the 'emotional sentinel,' and it responds to anything that you haven't experienced before. […] The amygdala […] feels like the thread to *novel*. What stimulates *my* amygdala might be very different than what stimulates yours. (Olsen 2015)

Here, her perspective echoes cognitive creativity researcher Raymond Nickerson (1999: 394) who claims creativity's definitive characteristic 'originality should be understood to mean original or novel to the individual involved, so that a thought would be considered creative if it is novel to the one who produces it, irrespective of how many others may have entertained that thought.'

7.1.3 Reeve

Reeve's (2016a) definition of creativity was something that 'generates potential,' and therefore aligns well with Olsen's perspectives and again reflects divergent thinking as a path toward novelty. Reeve claims that the awareness of your physical self helps you figure out and make choices in 'the cognitive side,' the mental side (Reeve 2016a). Much of her perspectives on novelty and habit begin with a cognitive awareness, then acceptance, of habit in order to 'release blocks' (Reeve 2016a, Reeve 2008, Reeve 2011)[40] and to 'create a fresh and refreshed response in the improvisation by following a different impulse or by moving differently' (2014b: 69). In our interview, she stated that making a pattern conscious and being seen in that pattern facilitates change; in her words, being seen 'really crystalizes the process of acceptance' so that one can move on to a new pattern (Reeve 2016a). Here Reeve emphasises the importance of awareness of habit to novelty. She continued, 'I don't think it's really possible to change something, in my experience, unless I've accepted it first' (2016a). Likewise, Reeve observed this as a necessary step towards novelty in those she has worked with, noting, 'Once they have emphatically embodied, recognized and accepted their preferences, I then invite them to investigate other possibilities' (2008: 119).

These 'preferences,' habits, or 'blocks' are not only physical, but also include 'the imaginative world that could travel with a sequence of movement' (Reeve 2016a). In Reeve's words, 'A mover can start moving from thoughts or from body structure, or indeed from feelings. Where the attention is placed as I move

[40] Here, in this terming, Reeve draws on her training in Grotowski theatre, which she views as a somatic practice.

reveals my attitude and my preferred way of accessing the world' (Reeve 2011: 11). Furthermore, the layered perspectives in *Nine Ways of Seeing a Body* (2011) and the structure of her *Move into Life* (Reeve 2016d) training practice illustrate her belief that habitual patterning can be not only physical or psychological, but also socio-cultural. My field notes (6.2.16) indicate that Reeve terms this multifaceted consideration of 'where you are' in the moment your 'condition,' and it includes the 'emotional, thoughts, etc. integrating body, mind, and feelings.' Though I recorded that, when introducing her practice, Reeve said 'it's about breaking your habit' during her 'Body and Movement' workshop (field notes 6.2.16), it was her 'Mindsets in Movement' workshop where I strongly felt I was 'observing my own tendencies' or habitual patterning (field notes 5.3.16). Here I wrote that 'developing an awareness of context [led to] respect for the unknown [… and] choice, options. […] Awareness = change of habit' (ibid.). Further, my notes indicate Reeve facilitated this change by incorporating a number of 'interruptions,' like introducing balls during a movement exploration task, or 'techniques' such as:

- *noticing when you're caught by a point and letting go*
- *turning your head/opening a window*
- *giving space to our needs*
- *[… and] starting from position of audience and then becoming actor* (field notes 6.3.16).

Like Tufnell, Reeve connects change, or novelty, with perception—particularly attending to the interaction between self and environment. She states, 'I also believe that we can change our attitudes by changing our movement, provided we are aware of the dynamic interaction of our movement and the surrounding environment' (Reeve 2011: 2). For Reeve, ecological perception 'jolts our habit

and permits new and often unpredictable pathways of connection through the world' (Reeve 2008: 77).[41] This perception of environment includes not only the ecological environment, but also the people (and resulting relations) that inhabit that place. She noted: 'paying attention to the patterns that evolved through working with others […] encouraged the spontaneous and the unexpected to arise' (Reeve 2008: 77).

Reeve associated novelty and awareness of habit with increased choices. She claimed that an extended (refined) perception allows one 'to enter [even familiar habits], and go in in a different way' to 'make another choice, a different choice' (Reeve 2016a)—a point that echoed her earlier claims that, 'By investigating a dynamic I was making conscious the way I usually do something, but I was also deliberately trying to do something different, to expand my choices' (Reeve 2008: 180).

She states that this novelty, this 'different way,' is chosen intentionally, through 'a stillness or a spaciousness around my choices,' adding, 'Essentially, I think if anything comes with that [spaciousness], it's somatic practice, because you have material with which to notice what's happening' (Reeve 2016a). Here, Reeve is explicit in her belief that Somatics facilitates spaciousness around choices to facilitate novelty, and echoes Olsen's (2002: 47) claims that 'the moment

[41] Interestingly, though Reeve and Olsen both include a grounding in, and awareness of the environment, they have slightly different definitions of *ecological perception*. However, Olsen, too, claims that 'Ecological perception—seeing from the Earth's perspective as well as with human-centred focus—broadens perceptual range' (Olsen 2013: 145).

between perception and response is your moment of choice—to act rather than react from habit.'

Significantly, Reeve notes that this path from perception and awareness into novelty and change is not unique to her practice, but rather pervasive in Somatics generally. She writes, 'Somatic studies begin from a sensorimotoric functional approach to how the body engages with its environment and from what Janet Eddy calls, "listening to the body" and responding to these sensations by consciously altering movement habits and movement choices' (Reeve 2011: 17-18). And she further notes (Reeve 2008: 35) that the Somatics field generally emphasizes widening choice in movement, 'releasing fixed habits,' and discovering 'new and more appropriate options' through sensing subtlety. Like Reeve, I found in my research that these themes of habit and novelty are indeed shared across the artists I investigated, and thus are key themes in my analysis.

7.2 The Unknown

'The unknown' was a common way of articulating novelty; in my inductive interpretation, data excerpts involving 'the unknown' form a part of novelty. For example, Olsen claims, 'We train for the unknown' in dance (2014: 33), and that in working somatically, we are 'entering unconscious material'[42] or 'accessing

[42] Though the term 'unconscious' is commonly used in Authentic Movement, and terms like 'pre-conscious' or 'pre-verbal' are commonly used across somatic practices, much cognitive science—including the ICS model offered in this thesis—does not acknowledge unconscious processing. Rather, I propose that what is termed un- or pre-conscious or pre-verbal in Somatics is actually the un-articulable, abstract meaning captured in the implicational subsystem of ICS. One aspect of that meaning is that it is 'knowable' (as is any unconscious material one could become aware of in Somatics), but

unknown realms' (2007: 322, 2014: 235). With regards to creativity, she notes, 'Retaining a commitment to creative possibility and risk taking—engaging the unknown in ever-changing and challenging explorations of form and flow—is the essence' in embodied practices (2014: 222). Likewise, Reeve claims that her work centres on 'explicit intention to honour the not-known,' stating, 'An underlying attitude in all my work has been the endeavour to cultivate a deep respect for the fact that there is an unknown' (Reeve 2008). She acknowledges the centrality of 'the unknown' to any creative practice, claiming, 'engage[ing] in embodied creative process [is] engaging with the unknown' (Reeve 2008: 74). Tufnell instructs artists to 'wipe the slate clean of knowing anything' (Tufnell and Crickmay 2004: 179), and also claims that 'to engage with a creative process involves a letting go into the unknown' (Tufnell 2017a: 112). Again, this idea of the unknown within Somatics-based creative practice is individual—what *I* do not (yet) know as an artist, rather than what is previously unknown-to-humanity. As Tufnell claims: 'In all our creating, we work as the early explorers, charting territory previously unknown to us' (Tufnell and Crickmay 2004: 179).

7.3 Habit

Data from Reeve in particular addressed how habit and novelty are intertwined concepts: without a 'norm' of habitual patterns, we could not have novelty. And habits occur both in mind and movement (for just a few examples: Olsen 2002: 64, Reeve 2016a, Tufnell and Crickmay 1990: 54). Reeve claims 'habit is an

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not verbally accessible, which is where I believe the confusion of terminology arises from.

affective disposition' (Reeve 2008: 46, Reeve 2014a: 423-424), noting that such habits can be unconscious or deliberately cultivated. They may become incorporated sub-cortically (ibid), or without need for conscious control. As Sheets-Johnstone (2011: 460) states, habitual movement is 'sidelined in our awareness as we focally attend to other matters.' Thus, habit is not necessarily a negative in dance or otherwise; indeed, as Barnard (2016) notes, habit formation is economic, allowing us to offset the cognitive load of both mental and physical tasks. 'Habitual movement patterns can, however, be made focally present' (Sheets-Johnstone 2011: 460). Recognizing habits is a way to avoid *or* creatively use them (Barnard 2013). As Doughty et al. (2008: 134) claim in researching Alexander Technique, awareness of habits is essential to change, and this is a central tenet in Somatics. Indeed, in Somatics, the refined sensory perception and the ability to cultivate a 'subtler awareness of deeply seated habits' (Gray 1990: 86) is essential in shifting a pattern—Myers claims, 'the first step in unravelling an undesirable muscular habit is to become aware of what it is, and how it feels' (1984: 165). The variety of Somatics modalities represented in this chapter thusfar, including Authentic Movement, embodied anatomy, *Move into Life*, and Alexander Technique, is a small, but diverse sample that speaks to the importance and pervasiveness of habit-awareness within Somatics.

To put that awareness into the context of creativity research, I claim awareness of habit results from a perceptual sensitivity, refined through somatic practices, and is the first step towards change and novelty. Habits are not only mental and physical, but perceptual as well, according to these artists. Olsen (2013: 142) maintains that, 'Stretching perceptual habits is a skill,' while Tufnell (2004: 113)

states, 'We find ourselves working to a formula, repeating, stuck in a familiar habit, locked into one viewpoint,' and advocates 'unloosing the body/mind from the ongoingness of our everyday habits of perception' (Tufnell and Crickmay 1990: 1); Reeve claims whole-body movement in environments 'opens up fresh perceptions of that place and challenges our habits, calling forth adaptability, flexibility, and creativity. In order to develop skilfulness in movement, which would include the possibility of stepping outside ingrained habits,' she applies her lenses 'to reveal the somatic heritage of […] habitual, cultural mechanisms' (Reeve 2011: 36, 41).

Each of these—refining sensory perception, becoming aware of habits, facilitating change, and finding novelty—does not occur without effort. For instance, Tufnell offers exercises for 'disrupting habit' (Tufnell and Crickmay 2004: 15). As Olsen notes, 'My habits […] are deep; change takes practice' (Olsen 2014: 129). She furthers: 'what feels "right" is often what is most familiar; so part of the work is getting comfortable with the changing sensations' (Olsen 2004: 54). As she observed in our interview, Somatics challenges habitual thinking with physical sensation. It asks people 'how to interrupt those thought pathways by actual information from the body. The somatic and creative work, it's not just conceptual' (Olsen 2015).

7.4 Defeat or Awareness?

Though, as noted above, some psychological models (e.g. Koestler 1964) define creativity as the 'defeat of habit,' this research complicates this thinking and

challenges the assumption that habits must be *defeated* in creative practice. For example, when discussing how she views novelty as individual—novel to *you* rather than novel to the community-at-large—Olsen remarked that this was distinct from 'what Nancy Stark Smith calls "the tyranny of the new," where you *have* to be novel all the time in order to stay in the cutting edge as an artist' (Olsen 2015). Here, rather than feel a strong pull toward the defeat of existing norms, the goal of a creative artist is to push at personal boundaries, in the process discovering where the line of novelty is both personally (for one's own practice) and transpersonally (what would stimulate an audience) (Olsen 2007, Olsen 2015). She notes that an understanding of both is integral to the creation of performance dance work and distinguishes between *creating* (as in community and therapeutic arts contexts) and *creative* art, which she views as requiring rigour in addition to existing on that liminal boundary of discovery, of novelty.

Tufnell also spoke of when she began working somatically as a pioneer in the postmodern period, prior to Somatics being an established field, and after her experience in 'very traditional training' (2016a). She stated,

> once you have entered a traditional training, your body is programmed to move in certain ways and certain rhythms with certain values, and [you are programmed about] what is beautiful, what is not beautiful. And […] that was the intention, to free ourselves from a lot of that what we would say is 'conditioned' movement. (Tufnell 2016a)

She continued: 'our intention was to break down the hierarchy […] Our intention was to look at all movement; all movement was material for dance. […] It was a time of reclaiming self-authority' (Tufnell 2016a). Though Tufnell identified the shift toward what is now termed *pedestrian* movement and movement

originating from a first-person, felt sense rather than a codified movement technique as a reaction to those trainings, it was not seen as an attempt to *defeat* habit. Defeat carries connotations of negativity—indeed, the postmodern movement is frequently centred around this idea, evidenced in the influential 'no' manifesto penned by Yvonne Rainer[43] and espoused by her Judson-church contemporaries; in contrast, Tufnell and colleagues wrote a 'yes' manifesto (Tufnell, Karczag, and Crickmay 2014) of which she expressed, 'We wrote the "yes" one, not to counter [Rainer's], but almost in response. Where do we say yes? What do we say yes to?' (Tufnell 2016a). Here, too, in the rejection of the negative, Tufnell appears to espouse awareness—this time of the positive ('Yes to the fullness of life and the fullness of a human being, in all aspects,' she said in our interview)—problematizing again the idea that what is sought is a defeat of habit, rather than an awareness supporting autonomy and agency, sub-themes discussed in Chapter 5.

Tufnell claimed, 'Intuition, play, and a quality of acceptance lie at the heart of this work and paradoxically are what can initiate change' (Tufnell 2017a: 110); here, her mapping of the pathway from acceptance to change reiterates Reeve's.
As noted above, awareness and acceptance of habit were central to Reeve's understanding of creativity. In our interview, Reeve discussed how physical training and conditioning is a form of bodily knowledge. This can often be a core a part of someone, which they are not always seeking to overcome, but rather, in her (2016a) words, 'to enter, and go in in a different way.' Reeve (ibid.) claimed

[43] Her manifesto was originally published in the *Tulane Drama Review* vol. 10, issue 2 (Winter 1965).

about physical training[44] that, 'those things are there in a sense; the movement already has them, whether we're expressing them or not.' Rather than *defeat* or inherently reject them, somatic practices are encouraging the ability to consciously choose whether to engage in those habits or find a different, perhaps more novel and useful or more efficient, pathway. Reeve further states,

> My intention is to accept and appreciate what they can already do and help them to clarify their own particular habits, so that they can become aware of how they move (their own unique movement vocabulary). This amplification and definition of their choice of patterns gradually helps people to be bodily aware of how they do, *as they are doing it*, rather than retrospectively, or not at all—and to cultivate acceptance of the first stage of transformation. (Reeve 2011: 21, original emphasis)

Thus, for Reeve, habit awareness is the first step to transformation, or change—and thus novelty. She also notes that through somatic awareness of intercultural mechanisms 'it becomes possible to use movement to identify, understand, and, *if necessary*, transform ingrained cultural attitudes and tendencies, to shift deeply rooted "incorporations" and to create new ways of moving forwards in dialogue with each other, whilst respecting diversity' (Reeve 2011: 41, my emphasis)—here again, change comes from first becoming aware. Here, too, Reeve notes the transformation is only 'if necessary,' which illustrates that, for her at least, the goal isn't inherently to defeat habit, but rather to provide the option to choose incorporations and movement intentionally.

[44] Here, we discussed dance techniques as well as other forms of physical training—Reeve even gave the example of mountain climbers, recalling observing their ingrained movement patterns in a previous workshop.

7.5 Change

However, the option for change is also an integral part to developing creativity. As noted previously, my analysis was inductive, and thus 'change' was part of habit and novelty, as in order to find novelty, one must allow a change from habitual patterning. As Reeve claims, 'our relationship to change itself as the only constant in life' (Reeve 2016d). Indeed, one goal of Somatics is to allow for change towards wellness. Indeed, ISMETA's requirements for an approved somatic movement training program include that it can 'provide students with ways to identify the potential for change in their clients' and that it facilitates 'awareness and ease supported by […] exercises and explorations that promote physical and mental reorganization' (ISMETA 2017). Olsen highlights the interrelation of the physical and mental in discovering newness when she claims, 'We need both a cognitive (mental) and an experiential (embodied) understanding to make a change in behaviour' (2014: xviii). As she remarks, one pathway to 'affect change' is through somatic bodywork practices (2004: 20). Furthermore, for Olsen, change and creativity are linked to a somatic awareness of our biology. She claims, 'Rigidity of form in the creative process limits sustainability; flow allows fresh vision. Mobility and responsiveness to change are inherent to life, basic to every cell, nature's gift to each of us' (2013: 146).

Olsen is not the only one to link creativity to change. Indeed, Tufnell wrote, 'the free play of creativity opens a door to buried resources, strengthening our capacity to meet and adapt to change' (Tufnell 2017a: 5). She also links sustainability and wellness to change when she instructs artists to 'let go of the familiar boundaries' and head for 'unknown places' by 'following an instinctual

and intuitive need for something to change and grow […] a place of change where anything might happen' (Tufnell and Crickmay 2004: 148).

While trying to articulate her definition of creativity, Tufnell asked, 'What is un-creative? What is the feel of that? It's something that's not moving. It's a state of no movement and no change,' reflecting Olsen's perspective that creativity and change are 'a "basic concept" of life' (Tufnell 2016a, Olsen 2004: 9, 19, 23). Tufnell continued her search for a definition, stating, 'it does feel like change is a very important part of it. It is a big one, this one. It's being very available for change I think. Change and possibility.' (Tufnell 2016a). Furthermore, she asks if readers 'need a change (of ingredients, landscape, position)' in her workbook *A Widening Field* (Tufnell and Crickmay 2004: 83); in her workbook, *Body, Space, Image*, Tufnell lists 'Images of Change', and asks, 'When is it time to move into something else, to change your thought?' (Tufnell and Crickmay 1990: 106). In a similar example, Olsen also instructs dancers to use change as a tool—e.g. changing level, focus, who the leader is in dyad work, and direction throughout her *Place of Dance* workbook (Olsen 2014: e.g. 6, 30, 85, 143, 152, 199) to discover novelty.

Change, in my data, is often connected to perception, to awareness. I have mentioned above how integral awareness of habit was to Reeve's perception of creativity. Olsen notes that somatic practices operate by 'bringing awareness and initiating the dialogue which can affect change' (Olsen 2004: 79). And Tufnell asks readers to 'move to explore – how does your seeing change?' (Tufnell and Crickmay 2004: 146), linking both movement and perception with facilitating

change. She, as noted earlier,[45] also links this refined sensory perception to an ability to perceive 'the smallest change' (Tufnell and Crickmay 1990: 59, 127), and subtle differences which facilitate habit awareness and novelty.

7.6 Connections with Psychology

Occurrences of novelty, the 'new,' the 'unknown,' the 'surprising,' the unexpected or spontaneous, and 'change,' 'transformation,' or similar—all were pervasive in my data and each point to novelty as an integral concept in creativity stemming from somatic practices. In my analysis, novelty and habit were closely related, as habitual thinking, movement, relationships, and so on must be overlooked or overruled in order to select the novel. This emphasis on novelty is largely in line with existing cognitive psychological creativity research, which widely identifies creativity as the production of something both novel and useful.

Most of the artists' ideas were compatible with psychological understandings that novelty can be combinatorial, i.e. discovering new relationships or contexts between previously-unrelated things (e.g. Koestler 1964: 35, Mednick 1962, Runco 2007) as referenced by Tufnell, as when she says, 'Conventions are transformed and enter a new exploratory existence when taken out of their normal context or used in unusual combinations' by embodied practice (Tufnell and Crickmay 1990: 109). Or, for instance, Olsen identified creative dance work as 'integrated beyond your ability to break it down into all its parts' (Olsen 2015). Her comment mirrors Stevens et al.'s overview of cognitive psychological

[45] Chapter 6.5

understandings that creativity involves 'new ideas not easily derived from earlier work,' and understanding that creative work is greater than the sum of its parts (Stevens, Malloch and McKechnie 2001: 59).

Perhaps most related to the circumvention of habitual response central to psychological definitions was Reeve's insistence on awareness and acceptance of habit in her practice. Though Reeve was most explicit about the role of habit, all three artists acknowledged a consideration of it; for example, Tufnell (2016a) remarked, 'You dare to do things, you get out of your habit.' Each of the artists approached an awareness of habit as not only physical patterning, but also psychological, interpersonal, emotional, and other habits. For these body-based artists, each of these is interrelated. As Tufnell (2016a) noted in our interview, 'you're trying to switch their minds so that they approach the body in a different way,' and vice-versa.

Becoming aware of habit, and the ability to opt for alternative, perhaps more desirable, possibilities is an important part of somatic practices generally. This ability to discover a range of alternative options to habitual response reflects psychological divergent thinking models—e.g. the 'variation' in the BVSR model,[46] and the 'generation' aspect of the 'generation and exploration' in the geneplore model of creativity. The ability to consciously choose the most desirable possibility, central in Somatics, echoes the subsequent 'exploration' phase (in which individuals work to discover options and to elaborate and

[46] Recall this acronym stands for 'Blind Variation and Selective Retention', an evolutionary model of creativity.

connect ideas [Finke, Ward, and Smith 1992; Smith, Ward, and Finke 1995; Stevens, Malloch, and McKechnie 2001; Ward, Smith, and Finke 1999]) of the geneplore model or the 'selection' aspect of the BVSR model (Campbell 1960; Simonton 2011b; Sowden, Pringle, and Gabora 2015). However, in this process of selection, my data presents habit as one of many possible choices and does not necessarily presume a habit's inferiority. This problematizes the commonly-cited view that creativity involves 'defeat of habit' (Koestler 1964), and therefore is one way in which Somatics may complicate psychological understandings of creativity. The prevalent thinking in my data was that, through recognition of habit, an individual has the agency and autonomy to make a conscious choice, to broaden their range of options. For instance, Reeve claims, 'I witness these personal preferences and variations from a consideration of how each individual can give themselves more choices in how they move,' (Reeve 2011: 20), while Olsen observes that 'This capacity for reflection […] brings the responsibility of choice' (Olsen 2004: 28).

Furthermore, my analysis of novelty and habit within the data revealed a shared emphasis on the individual when identifying what is novel. It was grounded in a biological basis (like Olsen's discussion of the role of the amygdala) or a sense that one is seeking one's 'true self' by allowing options outside one's prior training (Tufnell 2016a). In this sense, Reeve, Tufnell, and Olsen's perspectives represent Somatics' divergence from the mainstream psychological discourse, instead aligning with progressive psychological models of creativity, like Nickerson's (1999), which reject the homogenization implicit in defining and

measuring individual's divergent thinking on the basis of convergence (or not) with the general population, and rather identify novelty individually.

Finally, I discussed the importance of change to each of the artists' perspectives. Change was used as a tool to push creative boundaries and find a cohesive form.[47] Change also came from a greater sense of embodied awareness, a refined perception, and was linked to a positive shift toward wellness. Change in the data linked movement and mental patterning, the physical and the perceptual. As such, it may represent a shift in cognitive patterning that can be traced through frameworks like ICS.[48] As Olsen notes, ultimately, 'change is a process' (Olsen 2002: 104), one which comes from practice and allows for a greater range of options—in thinking, moving, and behaviour; novel movement; and a precise and authentic expression. Research confirms that when you change the way you move, it changes how you think: improvised movement, as in Somatics, facilitates divergent, creative thinking versus more structured forms which speed convergent thinking (Lewis 2012, Sowden et al. 2015).

As Tufnell claims,

> As we gain trust and articulateness in our bodies, in our senses, our feelings and imagination, we discover the multi layered nature of experience. Through this we discover new stories through which we may recover a sense of meaning and purpose in our lives. (2017a: 159)

Moving, quite literally, into the unknown from the known thus not only engenders novelty, wellness, and integration in Somatics, but is also linked to multiplicities of meaning (Foster 2003). As Tufnell notes, facilitating novelty

[47] I argue this form-finding is the choreographic act in Chapter 9.
[48] One proposal for this shift is presented in Chapter 11.

through creating an awareness of habit and allowing change inherently creates meaning; dance scholar Susan Foster (2003) argues that this lack of pre-planning in movement, as in Somatics, is bodily cognition, and allows for a mutual discovery of meaning—a topic to be covered in depth in the next chapter.

CHAPTER 8. MEANING AND TRANSPOSITION

Meaning was the next key theme that emerged from my data analysis, grouped together with *transposition*, the term for a transfer of meaning from one form into another. Before I can discuss transposition of meaning, however, it is necessary to first offer some definition for what is meant in this research by *meaning;* for, as philosopher Wayne Davis states, 'There are different ways in which the term *meaning* is constructed and used […. One] motivation for studying meaning is that it is not well understood' (Davis 2002: 15). I first offer a brief overview of meaning through mapping the meeting of some historical philosophical and psychological theories, including Davis' (2002) expression theory, then psychodynamic/analysis, behaviouralist, and humanist psychological approaches. I then illustrate how the operational definitions of *meaning* from this history are evidenced in my data by Tufnell, Reeve, and Olsen. Many of the connections to meaning in my research pointed to a particular *type* of meaning: implicational, or nonpropositional, meaning. Using Barnard's (1985) Interacting Cognitive Subsystems (ICS) theory, I discuss how, as a result of this implicational nature, meaning is often transposed into other forms to bring it into conscious and verbal awareness in order to make it communicable, particularly through writing. Finally, I make a case for how the processes of meaning-making in Somatics evidence theories of embodied cognition.

8.1 Meaning Defined

8.1.1 Early Roots: Davis' Expression Theory

One of the most pervasive theories of meaning in both psychological and philosophical discourses is 'expression theory,' as termed by Davis (2002). Expression theory is the foundation of semantics, and examines meaning in the context of both words and ideas; it began as early as Greek philosophers Plato and Aristotle (ibid.). In this theory, spoken words are symbols of mental experiences, and written words symbols of spoken words—though terminology may differ, the 'mental experiences' to which words point are the *meaning* of the words, or what Reeve, taking a phenomenological/Husserlian perspective, has termed 'noema' (Reeve 2008). Medieval philosophers Augustine and Ockham furthered this Aristotelian thinking, shifting to discussing 'mental experiences' as 'signs' and words as secondary signifiers, or 'symbols' of what in cognitive sciences would be termed a *mental representation*.

Later, Descartes and Locke shifted to using the term *idea* rather than 'mental experience' or 'sign,' and their theory of associationism—e.g. that words were associated with mental constructs (or representations)—became an important contributor to expression theory. This theory asserts that meaning is separate from, but associated with, the signs and signifiers which point to it. Though this referential theorising still permeates much thinking on meaning (Davis 2002), further interrogation of, and qualms with, this perspective gave rise to a later shift in thinking, when behaviourist philosophers and psychologists asserted that meaning must be verifiable, and thus understood through empirical experimental methods.

8.1.2 The Rise of Humanism

In the 1950s, the psychology field was dominated by psychoanalysis (a psychodynamic, clinical approach) and behaviouralism (an experimental approach asserting that human behaviour could be understood in a stimulus-response framework), both considered comprehensive approaches to understanding human behaviour (Glassman and Hadad 2013). Though these developments are less relevant to this thesis, they are significant in that their existence as dominant thinking in the field led to the rise of humanism, as a reaction to their implicit determinism. Humanism was an attempt to incorporate into psychological frameworks the meaning people give to their actions. 'In the humanistic approach, personal meanings are central to the understanding of behaviour—and behaviour is only one aspect of the whole person' note Glassman and Hadad (2013: 232). They state that humanism includes other labels for the approach, including existential or phenomenological—and the aforementioned impact of existential phenomenology on Somatics (in Chapter 2) illustrates how apt including a humanistic lens is in considering the role of meaning in the psychology of creativity in somatic practices. They identify 'three assumptions which are basic to the humanistic approach: a phenomenological viewpoint, a belief in the capacity for choice, and an emphasis on meaning' (ibid.).

The *phenomenological viewpoint* takes the subjective perspective, maintaining that only an individual can explain the meaning of their behaviour, because all

information is gathered by (and selected, attended to, and analysed by) individuals, it is inherently subjective. Humanist pioneer Carl Rogers argues his process of intersubjective verification—namely that an event or observation is agreed upon by two or more viewers, as ultimately occurs in more traditional scientific study replication—is fundamentally the basis of all scientific methods (Glassman and Hadad: 233); my cross-comparison of three artists' perceptions of Somatics-based creativity in this study reflects Rogers' intersubjective verification.

The *capacity for choice* in the humanistic approach also has links to my findings, as discussed in the Chapter 5's pedagogical sub-theme of agency/autonomy/choice. In humanistic approaches, the emphasis on choice posits that humans decide how to behave based on subjective assessments using free will; as such, humanistic psychology rejects the determinism inherent in behaviourist and psychodynamic approaches. These previous approaches neglected to study meaning, as it was considered non-objective and value-laden, and asserted that meaning as a 'purpose' of behaviour 'cannot be directly observed, and often can be inferred only incompletely' (ibid: 234). Humanists, on the other hand, accepted that questions of meaning, and individual reporting on the meaning driving their actions, are central to understanding human behaviour.

The third basic assumption to the humanistic approach is the most salient for this chapter, namely the emphasis on meaning. Meaning, in this context, is 'the purpose or value that a person attaches to their actions and experience' (ibid.:

234). This is perhaps most stringently realised in existential (humanist) psychologist Viktor Frankl's theory of *logotherapy*, which argues that finding a meaning for life is the most important human drive and is central to one's growth and happiness. In it, meaning is personal, an outcome of one's attitude about, and the context of, one's experiences (ibid. 257); there is no general meaning, only a subjective meaning, e.g. 'the specific meaning of a person's life at a given moment' (Frankl 1992: 113).

Humanistic approaches, as they emphasise the individual's perspective when studying human psychology, are unique among the dominant schools of psychological thought (e.g.: biological, behaviourist, psychodynamic, humanist, and cognitive, according to Glassman and Hadad 2013). Humanistic psychology contributed the use of phenomenological methods to the field. As Glassman and Hadad (2013: 267) note, 'in order to study how human beings feel about themselves and their environment, we must ask them what they are experiencing—that is, use a phenomenological methodology. Examples abound in current research that use this (particularly in cognitive research)', which is where I turn next.

8.1.3 Cognitive Psychology

Psychologist Jerome Bruner (1990: 1) notes that the birth of cognitive psychology, or as he terms it 'the Cognitive Revolution,' was to focus on mind as a reaction to objectivism, similarly to the rise of humanistic psychology. He notes that following this first wave was 'a renewed cognitive revolution—a more

interpretive approach to cognition concerned with "meaning-making," one that has been proliferating these last several years' in a range of fields, including psychology (1990: 2). In cognitive psychology, most study of meaning has been linked to psycholinguistics and semantics (Balota and Marsh 2004, Parkin 1998). Bruner's main argument is that culture and the search for meaning are the most central, constitutive aspects of mind and that 'meaning itself is a culturally mediated phenomenon that depends upon the prior existence of a shared symbol system' (Bruner 1990: 69). He is highly critical of prior cognitive models, and views this second cognitive period's aim 'to discover and to describe formally the meanings that human beings created out of their encounters with the world, and then to propose hypotheses about what meaning-making processes were implicated' as positive (Bruner 1990: 2-3). As Bruner was writing in 1990, largely prior to the shift toward situated cognition, it is likely he saw the connectionist phase of cognitive psychology (see Chapter 2) as this more interpretive approach that shunned previous computational theories. As he notes, 'Very early on [...] emphasis began shifting from "meaning" to "information," from the *construction* of meaning to the *processing* of information' due to the prevalence of computational metaphors for cognition (Bruner 1990: 4, original emphasis). For Bruner, meaning 'is not an outcome of computation nor is it relevant to computation save in the arbitrary sense of assignment' (ibid.), and this is largely his issue with cognitive psychology's contributions to the understanding of meaning.

However, because Bruner's perspective is a bit dated, the field of cognitive psychology has progressed and now widely accepts situated (embodied,

extended, distributed, etc.) models of cognition. Bruner states that in computational models, 'in place of the concept of meaning there emerged the concept of computability' (1990: 6). However, many more recent cognitive psychological theorists eschew the information-processing model/metaphor for human cognition, or, put more bluntly: they claim, perhaps obviously, that humans are not computers (in particular, theories of embodied cognition, covered in Chapter 2—see for example, Chemero 2009, Epstein 2016, Parkin 1998).

However, some of Bruner's qualms with these approaches may still apply, under particular cognitive models. Firstly, Bruner argues that stimuli/responses from behaviouralist thinking have merely been replaced by input/output flows in cognitive psychology (a field which similarly came into being around the same post-war era), and that these information flows are converted by 'a control element' (1990: 7), or what some cognitive psychologists term a *central executive*. He claims that, 'Such a system cannot cope with vagueness, with polysemy, with metaphoric or connotative connections' (1990: 5), yet it is precisely these 'metaphoric or connotative connections' which I would argue that the Interacting Cognitive Subsystems (ICS) model captures in the implicational subsystem (Barnard 1985, May and Barnard 2004, Teasdale 1993). Recall that ICS is a framework (without a central executive) of nine types of information and dedicated 'subsystems' which process each type, with associated separate memory stores; information processing occurs through transfer between these subsystems and transposition of information from one mental code into another. Most importantly, as Teasdale (1993: 344) notes, 'ICS

proposes mental codes related to two levels of meaning, a specific and a more generic level.' These two forms of meaning are the 'deep,' or higher-order subsystems; what Teasdale terms 'specific' is the propositional subsystem and the 'generic' is the implicational, or nonpropositional, subsystem—which is aligned with the metaphoric, polysemic, or connotative meaning Bruner identifies. It is precisely this latter, implicational form of meaning which my analysis uncovered as the form commonly accessed in somatic practices.

8.1.4 The Gricean Program

Finally, in this overview of theories of meaning, I will mention briefly Grice's philosophical theory of meaning (Grice 1957, 1968, 1969a, 1982, 1986, 1989, as cited in Davis 2002: 7) as it is particularly relevant in performing arts contexts. Philosopher of language H.P. Grice argued that meaning and linguistics, as products of a speaker's intention, were 'fundamentally a matter of psychology' (Davis 2002: 7). Davis argues against what he calls 'the Gricean program'—e.g. that 'to mean something, Grice said, is to act with the intention of producing a certain response in one's audience by means of recognition of intention' (ibid.)—as a definition of meaning. Davis rather proposes that Grice's is a definition of *semantic acts* (e.g. communicating, referring, and expressing), maintaining that one can express meaning without necessarily intending to plant an analogous understanding in an external audience (for example, talking to babies). Davis views his 'expression theory'—namely that meaning exists in the expression of mental states—as neo-Grecian. Though his objections to Grice's proposal have merit, it is important to note that this form of 'meaning' is one that is often

intended in lay or everyday conceptualisation of the term. Furthermore, I propose that, in individual, subjective meaning-making, the *audience* inherent to a Gricean perspective could also be one's own self. By which I mean, through a metacognitive awareness of our own meaning-making, we become the audience to whom we are communicating, referring, and expressing, and thus the recognition of intention is our own. No external audience is requisite, then, in this theory of meaning. Reeve, too, notes this plurality of 'audience' when she states, 'Meaning is often attributed to the body through the interpretation or assumptions of the mind, whether that is the mind of the mover or the mind of the witness' (Reeve 2008: 34).

8.1.5 Definition: Conclusions

In his furtherance of the Gricean program, Davis (2002: 19-24) identifies various definitions of the verb 'to mean,' and in essence, types of meaning:

1. Evidential meaning (i.e. observable phenomena that imply causal connections—smoke means fire)
2. Word or symbolic meaning (or 'dictionary' definitions—smoke means suspended particles), and
3. Speaker meaning (e.g., by 'the smoke,' Laura was referring to London).

In doing so, Davis notes that evidential meaning is not an equivalent definition of *to mean* in the same way that word or speaker meaning are; when one says that 'smoke means fire,' the operation of *means* is quite different from carrying meaningful information, or meaning in the sense with which my research is concerned. Davis argues that speaker meaning is the most fundamental in this

semantic notion of meaning (Davis 2002: 19); however, in my analysis of the data and subsequent proposal of how meaning operates in Somatics contexts, I argue that both the symbolic meaning and speaker meanings are at play.

By highlighting these differences, Davis furthers both Grice's theory that meaning is communicative *and* the referential/associationist theories. If Humanist perspectives are added to Gricean and Davis' thinking, then, meaning occurs when thought is expressed, but is also subjective. Subjective meaning can be semantic (e.g. laying in the concept to which the communicative words point) or it may be more abstract and metaphorical, as in the meta-meaning indicated by Frankl's logotherapy (e.g. meaning of life). The thought, or mental representation, that a concept points to can then be further identified as either propositional or implicational—that is, as rational/logical/specific or emotional/felt/abstract—through Barnard's ICS theory. Some forms of meaning—e.g. Davis' symbolic meaning—would necessarily be propositional, and others—such as Davis' speaker meaning or humanistic understandings of meaning—could be implicational (or propositional). Furthermore, a combination of implicational and propositional meanings could create macro meaning.[49]

As Bruner notes, 'When psychology concerns itself centrally with meaning, […] it inevitably becomes a *cultural* psychology and […] must venture beyond the conventional aims of positivist science with its ideals of *reductionism, causal explanation,* and *prediction'* (Bruner 1990: xii-xiii, original emphasis). Further,

[49] Though I am aware of the much broader field of philosophy of language, including Wittegenstein, Ryle, and Austin's assertions that to understand meaning we must look at language usage, to cover this territory is beyond the scope of my current research.

Bruner (1990) argues against the parochialisation and segregation of 'schools' of psychology, and although he is somewhat dismissive of cognitive psychology (particularly due to its initial reliance on computational models). By drawing on a range of philosophical and psychological theories of *meaning* I take an approach to the understanding of *meaning* in my analysis that is plural and polysemic.

When 'meaning' appeared in my data, it carried multiple layers of meaning—both referential or semantic (*x* = the mental state or concept *y*; *x* is a signifier of the concept *y*), but also Griceian (where audience may be both ourselves or others, in a metacognitive or communicative sense, to whom *y* is communicated through *x*), and humanistic (or 'macro,' where I interpret *y* to have some relative personal significance). The deep meaning, the *y* variable in all of the above, can always be identified as either propositional or implicational. Meaning, then, in my data takes the forms both of *meaning* in a lay-sense and in a psychological/philosophical sense.

8.2 Macro Meaning

Creativity, at least through this research is understood as giving form to that which is not only novel, but has meaning—or, as creativity psychologists Amabile and Tighe argue, to be considered creative, a 'product or response cannot merely be different for the sake of difference; it must also be appropriate, correct, useful, valuable, or *expressive of meaning*' (1993: 9, emphasis mine). In this sense, the 'usefulness' criterion of *creativity* could lie in the meaning

contained within the created form. I discuss this form-making in dance in the next chapter; however, an individual's meaning-making may take either implicational or propositional form, and one could argue a 'more' useful artistic product is one in which the form contains meaning that resonates, not only with the creator, but also with others on a personal level. Indeed, 'expression theory,' (not Davis' theory, but the same term indicating an aesthetics philosophy), claims that 'form of an artwork is merely a vehicle for communicating artistic feeling' (Bunnin and Yu 2004: 242) to an audience, which reflects the centrality of implicational meaning to artistic production and reception. This understanding of meaning, and the centrality of communicating meaning as the aim of art (and thus choreography) in aesthetics' expression as well as Gricean theories, is echoed in my data—for example, by Tufnell, when she claims, '"Making" in any medium springs from a need within all of us to communicate and to share with others' (Tufnell 2017a: 37).

In a general sense that most closely aligns with Frankl's theory, *meaning* could best be understood as 'what matters' to a person. Or, as Tufnell puts it, 'how we conceive of ourself and our lives' (Tufnell 2017a: 4). This form of meaning was the most common within the data, and because it reflects an integration of metacognitive/communicative and humanistic understandings of meaning rather than a specific referential meaning, I will refer to it as *macro meaning*. Macro meaning is what Tufnell indicates when she says somatic practices 'allow us to engage with what makes life significant' (Tufnell 2017a: 4). This personal, humanistic macro meaning appears throughout the data, and each of the artists claim that somatic practices allow for meaning to arise and be understood, often

in a process of graduating to macro from semantic meaning. Tufnell appears to agree, when she states:

> In engaging our senses […] we shift from our familiar thoughts and anxieties into a receptive and creative participation with what is around us. The free play of creativity throws up gestures, rhythms, movements, and energies that open out and refresh how we feel in ourselves. Meaning arises from discovering relationships and connections. (Tufnell 2017a: 145)

Here, Tufnell iterates the key themes within my analysis of refined sensory perception, novelty, and meaning. She connects semantic (gestures, rhythms, movements) and subsequent macro (how we feel in ourselves) meaning directly with 'discovering relationships and connections' that arises from a practice of sensory perception—of 'engaging our senses.'

Reeve discusses creating a performance from her somatic practice (2008: 181) and indicates the personal meaning that arises in her practice and its usefulness in communicating to audiences. She states while audiences may bring their own plurality of meaning to their subjective reception of a work, there is legitimacy in both the audiences' and movers' own individual attributed meaning—a humanistic perspective. She claims, 'The meaning that [dancers] attribute to particular intentions remains personal and private, and may differ from external interpretations or assumptions, but the movement itself is visible, determined and public' (2008: 139)—and itself intrinsically contains meaning (without connection to objective, external, or narrative interpretation).

It is worth noting that the act of making meaning within Somatics is a *process*. As such, macro meaning emerges from a cognitive elaboration of information after

accessing more referential/semantic meanings. For me, this process often unfolds through a series of events: for example, I begin with a movement exploration; I notice repeated or significant movements arising in my improvisation; I trawl through my own personal affect, history, memory, et cetera for association and attribute a personal significance to the movement; I examine whether the movement and its associations have brought up any broader pattern in my life, and thus access larger 'meaning' that I have come to understand more deeply through my movement. Sometimes, the process of mining the associations involves drawing, writing, or speaking with a partner about the movement in order to unearth (or unpack) my personal associations.

This unfolding process of understanding the meaning inherent in movement is echoed not only in the structure of each of the artist's practices (e.g. Reeve, Tufnell, and Olsen offered opportunities to dialogue, write, draw, et cetera), but also in how they discuss their respective practices. For instance, Reeve notes, 'In *Move into Life* practice, I often start from movement tasks or moving with no fixed intention in a natural environment and allow associations, feelings, images, *and ultimately meaning* to emerge from a constantly shifting context' (2008: 177, emphasis mine). The emergence is a result of cognitive processing of the meaning inherent in somatic movement. As discussed previously, I argue that the pedagogical elements shared across Somatics allow for a more refined sensory perception. It is through attending to sensation, and processing the information inherent in our moving bodies, that we begin to make 'sense' of those meanings.

My experience above is one pathway through this processing.[50] This progression of meaning-making from bodily movement to personal meaning is echoed in Olsen's *Place of Dance* (2014: 131), when she recounts a student's process of 'Reinterpreting Butterflies.' There, the student notes the sensation of 'a flutter in his stomach' during auditions which he originally associated with panic, and generalized into a broader pattern or meaning that he was bad at auditions and didn't want to dance. Olsen observes when he 'attends more closely, sensations change. He can interpret *flutter* as excitement, joy, or prickly curiosity. This creates a different cascade of responses and resultant theories in his mind' (ibid.). The 'cascade of responses' and mental theorizing are a result of the student's cognitive processing of sensory information; through refining his perceptual ability and attending more closely to physical sensation, he is able to differentiate between meanings, defeat his habit, and find novelty—the very definition of *creativity*—in his meaning-making process, which is an example of meaning developing from micro (semantic) to macro.

Tufnell likewise notes the importance of the subsequent processing of meaning that movement produces, stating, 'We referred to this final phase of our sessions as "harvesting." The word *harvest* conveyed a sense of gathering up from all that had happened in the session; that there was always something valuable to be shared and gleaned from each other; a ripening and deepening of conversations within the group' (Tufnell 2017a: 38).

[50] The cognitive pathways which I propose support this will be discussed in more detail in Chapter 11.

Reeve maps her understanding of the inherent meaning in movement, and subsequent processing, onto Jaak Panksepp's neuroscientific model, which differentiates between affective and cognitive aspects (2008: 179). She notes that processes of 'working from a bodily felt sense in movement through to meaning' are situated within Panksepp's model in the affective aspects of mind, and states that it, 'is a remarkably apt way of looking at how creative movement choices emerging from a somatic, kinaesthetic process may gradually reveal a relevant meaning to their creator' (Reeve 2008: 179, 180). This distinction between 'cognitive' and 'affective,' though using different terminology, mirrors Barnard's (Barnard 1985, May and Barnard 2004) two forms of deep meaning: propositional and implicational, respectively. That Reeve therefore identifies the forms of meaning made in her practice as implicational is significant, as a sub-theme in my analysis was the prevalence of nonpropositional meaning.

8.3 Nonpropositional Meaning

The form of meaning most frequently raised in Somatics contexts, within my research, is not propositional but rather nonpropositional, or implicational, meaning. As noted above, Barnard identifies these two forms of 'deep,' or advanced, higher-order cognitive processing (Barnard et al. 2007, Barnard 2010, Barnard, Davidson and Byrne 2016). Unlike the logical, rational propositional meaning, implicational meaning is associated with affective and non- or pre-verbal 'knowing;' one analogy for the differences in meaning forms is in the way language is used. For example, propositional language would be a 'normal' prose usage with a rational structure and formal order, as in the sentences on this

page. Propositional meaning can be understood using logic. But humans—especially artists—also use words in ways operating outside of dictionary definitions and standard grammar rules (deLahunta 2015); implicational meaning is therefore, in this analogy, akin to poetic language rather than prose—complete with its non-standard, polysemic, associative and emotional content. As Teasdale (1993: 345) illuminates,

> Unlike lower level meanings, high level implicational meanings cannot be communicated by single sentences. Traditionally, such meanings have been communicated by poems, parables and stories, […] A poem conveys 'holistic' meanings, that cannot be conveyed by single sentences, by arranging sentences in appropriate sequences, together, very importantly, with appropriate direct sensory contributions from the sounds of the words, the rhythms and metres of the whole, and from the visual imagery elicited.

Previous research claims that thinking in movement (i.e. dance) partakes of a 'nonlinguistic strata of experience' (Sheets-Johnstone 1999: 426) and relational dynamics that develop 'outside of language' (Batson and Wilson 2014: 433). In my analysis, I discovered that propositional meaning is often thought of as 'fixed,' whereas implicational meaning is perceived as more fluid and slippery (and more pervasive in my data). Though none of the artists were familiar with Barnard's Interacting Cognitive Subsystems model, each in their own words indicated the importance of nonpropositional meaning in their practice.[51] I will now offer a selection of excerpts from the data to illustrate.

[51] Here I should note, the equation of verbal/nonverbal with propositional/implicational meaning is somewhat of an oversimplification of these ICS subsystems, but a useful shorthand which appears in lay-speak. This simplification has been used in academic publications to provide 'access' to the complex ICS model (e.g. Teasdale 1993, Teasdale 1999, Teasdale and Chaskalson 2011b).

8.3.1 Olsen

Olsen notes this distinction, stating, 'scientists use words to be specific and artists use them to be associative, encouraging a wide range of connections. All the dimensions of meaning are important' (2014: 129). Because implicational meaning is non-rational, it is difficult to put into words in the 'specific' or straightforward way that Olsen claims scientists use, and in order to be expressed in words, must necessarily be transposed into a propositional form, losing a level of fidelity (i.e. specificity or completeness) in the process (Barnard 2016). Though she does not situate this transposition within ICS or cognitive science, Olsen replicates this perspective when she also notes, 'There's a distance to go in the body-mind between direct experience and the words you use to describe that experience' (2014: 129). She continues, stating, 'Dancers know a lot, yet hours spent in a nonverbal medium can leave you speechless' (ibid.); here, her emphasis on dance as nonverbal indicates the implicational meaning made, and the 'speechless'ness the gap between implicational and propositional meaning. Furthermore, Olsen notes that, 'body is the source for language,' illustrating that, for her, physical sensation is the start of cognitive processes of meaning-making that may result in propositional outputs (2014: 129).

8.3.2 Reeve

As noted above, in discussing meaning-making in her *Move into Life* practice, Reeve likewise describes her path a 'choice of working from a bodily felt sense in movement through to meaning,'—by which I argue she is moving from a lower-order of information or meaning (e.g. sensory input) through an abstractive flow to the forms of meaning which are more commonly termed 'meaning' in lay

contexts.[52] In attempting to distinguish the forms of meaning, Reeve differentiates between 'cerebral or cortical' and 'affective aspects of mind' (2008: 179)[53]—terminology which, as noted above, indicates propositional and non-propositional classes of information. She says that she 'by-pass[es] the dominant cortical search for logic and reason. From a relatively "etic"[54] movement dynamic, [she] would allow associations and imaginative material to emerge spontaneously from [her] movement' (2008: 181).

Reeve claims that the processing from bodily felt sense and the meaning made 'are both situated in the affective aspects of the mind'—again illustrating that meaning generated in her somatic practice is ultimately implicational in nature (2008: 179). Furthermore, she typifies the ideational and affective content contained in the movement arising from her somatic practice as implicational, noting, 'Some of the associations were very precise, others were just ghosts of feelings' (2008: 180)—indicating exactly the forms of meaning which are difficult to put into words. Furthermore, Reeve notes that movement produces implicational meaning not only for the mover, but also for a witness; 'the audience could respond to the studies with their own associations, much as they might to a poem, rather than look for a fixed meaning,' she claims (2008: 194).

[52] I will further elaborate my theory for how cognitive processes operate in creative, Somatics-based dancemaking contexts in Chapter 11.
[53] Here Reeve again situates her perspective within neuroscientist Jaak Panksepp's model.
[54] Reeve (2008) defines 'etic' as 'wholly neutral, value-free description of the physical world,' in contrast with an 'emic' or inclusive of cultural meanings, approach—these definitions stemming from an anthropological context.

8.3.3 Tufnell

Tufnell similarly notes the multiplicity of associative meanings—which we, through the cognitive processing mentioned above—glean from somatic movement. She states, 'Any one perception can awaken a host of feelings, memories, and associations,' also noting that 'these ongoing flows of sensation and thoughts […] manifest in our bodies. Being able to observe, feel, sense, and move between different states of mind, from the practical, common-sense mind to more sensory, intuitive, and imaginative awareness, awakens a more grounded and connected sense of self' (2017a: 145). Here, Tufnell identifies the connection to self (a pedagogical theme) as related to this cognitive meaning-making process; she further identifies the two forms of deep meaning (or 'states of mind' in her words), 'the practical, common-sense' propositional and the 'more sensory, intuitive and imaginative' implicational meaning.

Likewise, Tufnell notes that this implicational form captures meaning that propositional words alone cannot. For example, Tufnell notes that, 'Art, dance, poetry, and music all communicate experiences that are beyond our everyday words,' and 'skillful movement interaction can open up avenues of connection where words fail' (Tufnell 2017a: 152, 79). She is adamant about the importance of implicational meaning to accurately convey the wholeness of what arises in movement practices, echoing Barnard's (2016) claims that transposition into propositional forms loses some imagal fidelity, asserting, 'Only the world of imagery can convey a feeling sense of what we are experiencing' (Tufnell 2017a: 152).

Tufnell discusses 'imagery' as the felt, but wordless, form of meaning accessed; among the three artists, she most explicitly, repeatedly offers the analogy of poetry as a metaphor for the type of meaning generated in her somatic practice (Tufnell and Crickmay 1990, Tufnell 2016a, Tufnell 2017a, Tufnell 2017b, Tufnell and Crickmay 2004). For example, in again referring to 'harvesting,' she further states, 'If we then take time to savour and look back at what we have done, we discover connections to many aspects of our lives, much as a poem captures a host of resonant meanings and feelings that everyday linear prose cannot convey' (Tufnell 2017a: 145). Additionally, she claims, 'Our gestures, however clumsy or small, become a way of entering into what we sense, yet cannot give words to' (Tufnell 2017a: 134). The repetition of this assertion—that, for Tufnell, the forms of meaning accessed are largely nonpropositional—indicates the importance of it within her practice.

Furthermore, though she does not explicitly trace the deepening of understanding as a cognitive process, Tufnell repeatedly refers to the processual nature of meaning-making, from bodily to implicational to propositional. This meaning may be initially semantic, and then through a process of examination, come to be personally relevant—in her words, 'we discover more of who we are' (Tufnell 2017a: 145). She states, 'to let our attention settle and dwell on something reveals a wealth of qualities and textures—things that are outside us, and which seem initially to have nothing to do with us, come to feel personally

relevant' (ibid.), which was my experience of encountering the ephemera she provided during her 'Widening Field' workshop.[55]

Moreover, in this progression, Tufnell interrelates meaning with sensory perception: to make meaning, we begin with perception, and, to convey meaning we must refine perception.[56] She claims, 'The physicality of movement, of poetic language, […] can reveal and extend our perception, helping us both express and contain feelings. The words and images that arise in the wake of moving or making surprise and sharpen our perception, connecting vividly to the world' (Tufnell 2017a: 152).

8.4 Transposition

As illustrated above, meaning generated in Somatics is largely implicational in nature, or, as Reeve states, somatic practices 'give presence to other-than-verbal experiences' (Reeve 2008: 52). However, as implicational meaning is difficult to capture in words, conveying the meaning derived from movement requires a transposition from one class of information to another—or a change in the 'form' meaning takes. In other words, in order to talk (or write) about the implicational meaning that arises from movement, it must be transposed into a propositional

[55] Tufnell's studio was filled with feathers, shells, stones, small figures, bells, et cetera; the objects transformed a studio/performance setting to something more playful, or more hallowed. Her work started softly, with ample time and a simple exercise: five full minutes were given to walk around the space and choose an object which 'called' to us—to make a selection, with no rush, before reflecting with a partner why we chose this object, this symbol, calling up our associations and the meaning we implicitly ascribed to it.

[56] Remember that although the themes in this analysis are presented in a progression, they are in reality an interrelated web.

form before it can be communicated verbally (either to ourselves, or to others). Tufnell, for example, terms this process 'finding a language' (Tufnell 2017a: 152). Or, as Olsen states, 'Sensory signals become thoughts that arrive into words, manifesting communicative expression' (Olsen 2014: 129)—significantly, here, 'thoughts' appear prior to words—indicating the primacy of non-verbal, implicational meaning. In my analysis, this, too, was a common perception, and the sub-theme of *transposition* highlights the communal recognition of that process.

8.4.1 Words

As noted previously, since the classical era, humankind's understanding of meaning has been linked to language. Words offer a vehicle to contain, and communicate, meaning (and, as noted in Gricean theory, this communication is viewed as meaning itself). Consequently, one of the most common forms of transposition in my data was (after first-order sensory input to implicational meaning, discussed above) from implicational to propositional meaning, from a non-verbal, affective 'ghost of associations' (as Reeve termed it) into *words*. As deLahunta (2015) notes, applying Interacting Cognitive Subsystems theory in a dance context allows an examination of the use of words, which emerge through a blending of bodily sensations with emotional and conceptual content. Considering how meaning emerges from bodily sensation, Olsen (2014: 131) remarked, 'In Western culture, naming is valued over experience. But if your interpretation doesn't match what's actually happening in your body, it's all words.' Here, Olsen's assertion 'it's all words' is dismissive, reflecting the difficulty of retaining the fullness of information inherent in movement and

bodily sensation when transposing that information into verbal form. This process is challenging and requires practice: communicating the subtleties resultant from a refined sensory perception requires expertise in retaining the imagal fidelity of one's moving-sensing experience. Tufnell similarly remarks, 'Articulating what we feel is challenging. […] Our words are often clichés or arbitrary labels and obscure or misrepresent' (Tufnell 2017: 152).

This idea that transposition into words somehow fails to capturing somatically-sourced meaning could be viewed as a point of tension in examining meaning cognitively. However, the ICS framework models how the transposition occurs and illustrates that expertise is, in effect, the practice of transposition of meaning, and with experience, one retains a higher level of fidelity in that transposition (May 2004, May and Barnard 2004).

These transpositions occur concurrently—the *interacting* in Interacting Cognitive Subsystems emphasizes the simultaneity of information processing. In ICS, physical information (from the body-state subsystem) is inherently affective; the route from the physical to the implicational meaning is direct, yet there is no direct route from sensory to propositional subsystems (May and Barnard 2004: 314). This means that to make 'structural' sense of physical information, transposition into propositional form is required. Attending to implicational information and its transposition into propositional meaning can support macro meaning-making, or, through a loss of fidelity, it might distort or misrepresent (as Tufnell claims above) that experience and hinder it. Or, as Olsen states,

> Words can inspire a felt sense of experience, referencing body-level awareness. Words can also imprison you, shutting down awareness of your body and the bigger whole. Can you represent your feelings and intentions in words while staying aware of sensory input and body-level response? Then cortical representation is integrated into your lived experience, and lived experience is reflected in cortical representation. (2014: 131)

Here, I concur Olsen is using the term 'representation' to indicate the second- or third-order processing, perhaps unaware that even first-order sensory input is also a cognitive representation. Though in ICS all of these orders are considered 'cognitive,' her distinction of *cortical* is one Reeve (2008) also used to indicate higher-order processing as opposed to first-order sensory input.

Each of these artists, because they are experienced Somatics practitioners and authors, has expertise not only in perceiving physical information, but also in transposing that information into propositional form. Indeed, the artists considered their writing (or editing) practice as a somatic one—one which was handwritten (Olsen 2015) and thus an embodied, physical extension of their cognition (Kirsh 2011), or one which was driven by attending to physical sensation, e.g. in making editorial decisions (Reeve 2016a) or aimed 'to concretise the inner' somatically-sourced meaning (Tufnell 2016a). Each of the artists testified to a longstanding, regular practice of writing as part of their somatic practice. Indeed, Olsen both evidences her expertise and the transposition (or, in her words, translation) that occurs in a Somatics-based writing practice when she claimed, 'I write every morning. […] I think I would call that a somatic practice. It's handwritten, it's not on a computer. And it's later translated and translated' (Olsen 2015), indicating repeated iterations of

transposition-of-form from bodily sensation to propositional information to words and back, in a processing flow I iterate in Chapter 11.

This may be a product of my inclusion criteria, as the criterion that the artists I examined be published authors would require a level of expertise in this transposition; however, it is my experience that 'capturing' meaning in words is common to many somatic practices, and even practitioners who would not meet that criterion may well have developed the procedural expertise to retain a high level of fidelity when putting bodily experience into words. As deLahunta (2015) notes, using words is an acquired skill in nonverbal forms such as dance, were words are often separated from their formal semantic anchors and extend beyond their immediate associations. DeLahunta points not only to the level of expertise required for this transposition of meaning, but also highlights that, even when physical information is transposed into words, they operate outside normal linguistic conventions and take a more poetic form—that I posit retains more of the implicational nature of body-state information.

8.4.2 Non-verbal

However, this sensory input and body-level awareness which leads to implicational meaning is not only, or always, transposed into words. Sometimes, the process of attempting to understand what arises during a movement exploration is investigated in non-verbal forms—often as a step towards transposing into words. As such, it is perhaps a means of retaining fidelity while transposing meaning between implicational and propositional forms. For example, prior to writing or discussion, a mover may attempt to 'capture' or

harvest some of the meaning that arose in their movement through a pictorial depiction. As Tufnell observes, 'Sometimes a brief sensory drawing in the wake of moving bridges between the wordless realm of movement and language' (Tufnell 2017a: 128). This mark-making could be an in-between transpositional process, perhaps retaining more of the implicational abstract meaning than words might. In ICS, the visual/pictorial, with its latent implicational meaning, would then be re-entered into the system through the visual input array, reinforcing again the physical sensations' implicational meaning, and potentially more closely retaining that original meaning when subsequently transposed into words.

Transposition into words was the most common way to examine meaning within somatic practices in my data. For instance, though her 'Moving/Writing' course was devoted to writing, the emphasis on writing to capture meaning is a pervasive trend in Olsen's work; in *Body and Earth,* Olsen instructs readers to 'write about your experience' following a practical, usually movement-based exercise—only once instructing to 'write *or draw* your experience' (2002: 76, emphasis mine). Though in my experience, Reeve and Olsen occasionally offer space to respond in any medium, Tufnell most frequently emphasised the variety of modes through which implicational meaning could be captured, providing art supplies such as pastels and clay in addition to asking us to bring writing implements to workshops. Indeed, working across mediums is a core in her handbooks (Tufnell and Crickmay 1990, Tufnell and Crickmay 2004): in *When I Open My Eyes,* she explicitly states that, 'Where words fail, creating in any medium offers a means of expression that helps a person reconnect to the wider

field of their life experience' (Tufnell 2017: 17). Furthermore, she notes that other modes can both follow and precede movement as a way of generating and accessing meaning, noting,

> we encouraged people to move between different media, [… which] could each open a door into movement and bring to the fore what mattered to a person. To sift and evoke the experience of moving through another media—stories, poems, paint, or sculpting materials—amplifies this wordless realm, offering a tangible means of reflection which extends the resonances of whatever is created. (Tufnell 2017a: 158)

For Tufnell, transposition is thus important as a means to capture and record the meaning inherent in movement, which arises as we attend to it but vanishes as the movement moment passes. Here, Tufnell echoes an understanding that dance, and its inherent meaning, is ephemeral—always in flux and non-linguistic, and therefore difficult to capture or translate—an observation common in dance studies (Batson and Wilson 2014). Transposing this meaning into words (mentally or verbally), images, and so on allows us to retain and 'capture' the meaning for further or future examination. As Tufnell claims, 'Dance is ephemeral, and leaves no visible trace of itself; like a message on water it rises, plays through the body and vanishes,' so, for her, this 'harvesting' by transposition into other forms is a necessary reflexive practice in meaning-making (2017a: 158).

8.5 Embodied Cognition

As noted in Chapter 2, embodied cognition theories posit that cognitive processes extend beyond the brain and include physical processes, and that the coupling of the sensate moving body with its environment gives rise to thinking

and meaning (Gallagher 2014, Gibbs 2005, Robbins and Aydede 2012, Shapiro 2011). Across the data, all three artists espoused this perspective by situating meaning generation within the body (or the body-mind, a neologism indicating the interconnectedness of cognitive and physical processing); thus, in my analysis, *embodied cognition* emerged as another sub-theme of meaning. As noted in earlier, there are conflicting ideas around what constitutes embodied cognition (see: Charles 2014, Robbins and Aydede 2012, Shapiro 2011, Wilson and Foglia 2011, Wilson and Golonka 2013, for example); I find Robbins and Aydede's (2012) framing that 'situated' cognition is an umbrella term for a number of sub-theories including embodied, enactive, embedded, and extended cognition helpful. Embodied cognition is the 'first step' in extending cognitive processes beyond the cerebral—enactive, embedded, and extended theories further the boundaries of cognition beyond the body into the environment and external objects. Though fully considering these extensions is beyond the scope of this thesis, I find that Shapiro's classification of variants of embodied cognition as a research program useful in delineating where in those variants my data falls. Shapiro (2011: 4-5) identifies three main schools of thought: Conceptualization, Replacement, and Constitution. As I summarised in Chapter 2, Conceptualization is the theory that organism's physical properties determine how it perceives the world. In Replacement, direct experience replaces previous theories of mental representations as the core of cognition. And Constitution claims that the body plays a constitutive, not merely causal, role in cognition. Each of these perspectives was evidenced in the data, and will be discussed briefly below.

8.5.1 Conceptualization: Subjective Perception

First, I will discuss the idea that one's physical construction—particularly of sensorimotor input—shapes one's perception of the world, e.g. Shapiro's Conceptualization theme, or the argument that 'perceptual processes structure our experience of the world according to our individual cognitive schemata' (Glassman and Hadad 2013: 237), that movement and perception are 'interlaced' and inseparable (Sheets-Johnstone 1981:402). In my analysis, this theory appeared mostly in data from Olsen. Though she does not explicitly situate her practice within this theoretical framework, she summarises the theory succinctly when she repeatedly states, 'The way we see shapes our view of the world' (Olsen 2002: vii and 85). Furthermore, she asserted that where you place your attention changes the meaning you make during her 'Body and Earth' course (field notes 1.8.16). Olsen also noted during her 'Moving and Writing' course that perception is subjective and determined by one's culture, past history, or personal interpretation (field notes 26.7.16). Indeed, I found that my own history manifested in gestures that arose during her workshops, and that through careful discernment in perceiving various bodily systems—by shifting my attention to nervous system, organs, limbic and such—I was able to alter my movement and discover more range in tempo, rhythm, muscular tension, and so on during the practice. Here, in my analysis, Olsen's perspective might be akin to Roger's phenomenal field theory (as in Glassman and Hadad 2013) which extends Shapiro's Conceptualisation to include how not only bio-physical, but also socio-cultural constraints affect perception. In her writing, she argues that subjective perception affects our engagement with—and thus understanding of—the world (2002: 60). In doing so, Olsen connects her practice with a

constitutive perspective of embodied cognition, and thus situates the meaning-making in that practice as innately embodied. To wit, in the cyclical process of meaning-making and communication, Olsen claims, 'the body informs what's being translated' (Olsen 2015).

8.5.2 Replacement: Ecological/Gibsonian Affordance

Batson, Quinn, and Wilson note that, 'A correlate of embodied cognition is ecological affordance' (Batson, Quin and Wilson 2012: 187). Ecological affordance is an aspect of James Gibson's (1979, 1966) theory of embodied cognition, which focuses on high-quality, direct perceptual access to the world; this direct perception, in his theory, replaces traditional mental representations. Of the artists in my research, Reeve most directly positions her practice within Gibsonian replacement models of embodied cognition. Reeve explicitly draws on Gibson's theories when writing about her practice (see for example, Reeve 2008, Reeve 2014a, Reeve 2011), and it is clear his thinking affected the development of, and reasoning behind, her practice.

In preparation for her artist retreat, Reeve sent a hand-out which outlined Gibson's theory for participants, titled 'Movement Dynamics and Affordances.' In it, she claimed, 'Throughout my research, I have returned to the significance of being aware of affordances, which, as they occur in the line of movement, point both ways, to my changing self and to the environment' (field notes: 11.03.16). Reeve claims that affordances guide her creative responses and personal meaning-making processes. She notes, the autobiographical 'niche' movement

generated in her work outdoors 'corresponds with Gibson's theory of affordances: that is, how we pick up information appropriate to our needs directly from the environment' (2008: 177). Reeve claims that this direct perception is where she derives the meaning, or intention, for her artistic work, noting in our interview that 'it's an affordance really […] It's very rarely an idea. I recognise it physically first' (Reeve 2016a). By situating her practice within a Replacement theory, Reeve thus reinforces the recurrence of embodied cognition and meaning-making within my data set.[57]

8.5.3 Constitution

Lastly, in my analysis it was most broadly recognized that the moving body is not a product of cognition but agential in it—in Shapiro's model, as a constituent in, or constitutive of, cognition. Indeed, Robbins and Ayedede assert that an essential principle of embodied cognition is the tenet that 'perception, thought, and action are *co-constituted*, that is, not causally but also constitutively interdependent' (2012: 4).[58] This thinking is pervasive in dance studies: for example, in choreographer Carol Brown's words, 'the connectedness of the living tissues of the body can create an alternative system of thought' to traditional

[57] It should also be noted, though I am focusing on Reeve here as she most explicitly situates her practice within Gibsonian/replacement theories of embodied cognition, Olsen also points to what 'is really happening subcortically, below the cognitive level,' and questions, 'what's the role of cognition in creative and somatic knowing?' She claims, '[… it's] the nervous system that's subcortical that's feeding the ability for us to make decisions. And how do you reinforce and feed that? Which of course, somatic practice does' (Olsen 2015)—here again pointing to embodied cognition, a direct interaction with environment that does not require higher-order, what she might term 'cortical,' processing of mental representations (i.e. transposition into propositional forms of information), to generate meaning.

[58] The second tenet being that modality-specific representations, not amodal representations, underlie cognition—a claim with which not all embodied cognition researchers agree (see Shapiro 2011), and which is of less relevance and import within this research.

cerebral models, wherein dancing becomes 'thinking through the body' (2003: 8, 7 in Pollard 2007: 70). Somatics practitioner and dance scholar Diedre Sklar (2000: 73) claims feeling-while-moving—what I claim is both the process, and result of, refining sensory perception—makes the body 'capable of generating not just practices, but also ideas.'

Though Tufnell does not situate her practice within this theoretical framework explicitly, she repeatedly and overtly claims that making—and moving—are ways to understand ourselves and the world in which we live. She states, 'we discover what we think and feel *through* what we make or create,' and further that, 'movement becomes a way of bodying forth the unseen within us' (Tufnell 2017a: 145, emphasis original, 134). My own experience confirms this—especially while moving in Tufnell's 'Widening Field' workshop, in Olsen's 'Moving/Writing' course, and Reeve's 'Movement and Communication' module. Moving, and processing that movement afterward through transposing the imagery that arose into words (both written and spoken to a partner), allowed me to understand and process issues I was grappling with.[59] For me, moving was a way of 'making sense,' of my experiences—often feelings or memories which I neglected to attend to. It allowed me to make meaning of the nebulous currents

[59] In reviewing my field notes, I am struck by how most of these transpositions are highly schematic, image-based recordings, which may not so easily (or literally) exemplify my concerns. At times, I have written in a way that sits between prose and poetry, and therefore more directly approximates these concerns in words. One example stood out from the first day of Olsen's 'Moving and Writing' course (field notes 25.7.16). I had arrived to the US (my home country) just before and, staying in housing by myself, found myself alone and in a place I had never visited, but a country that was familiar. The text, titled **LAND**, reads: *from a jump — / to arrive, settle - feel stable, grounded / ground. / land, earth. / this ground. ground-ed. / land – this land. / this land is my land, this land is / your land. / or is it!? does not feel like it. I feel / land-less - caught in between / both at home, and a foreigner / in both lands. / how to ground when one is not of the land?'*

bubbling under the surface of my attention, yet nevertheless directly affecting my daily experiences.

The argument that the body is constitutive in cognition extends beyond post-processing, however. Rather, our physicality is *foundational* in cognition. Or, as Reeve asserts, though meaning is often attributed to the body through mental processing, 'the materiality of the body alive in movement holds its own noesis, which expresses itself in time and space. It can tell the fact of its own distinct becoming through movement; movement can also evoke multiple noematic interpretations' (2008: 34). Here she notes that meaning *can* be unearthed in post-process reflection, but meaning already exists inherently in bodies-in-motion—an important distinction, and one which strongly centres the meaning-making in Somatics within situated cognition discourses.

Reeve explicitly situates her practice within cognitive frameworks. She does 'not see bodily behaviour as symbolising ideas conceived independently of it' (Reeve 2008: 52). She claims that, 'Somatic studies [in general] begin from this sense of meaning inherent in materiality' (2008: 34). Reinforcing her perspective, Tufnell claims,

> language traps us in a Cartesian duality of mind as distinct from body. Yet there is no thought in our mind that is not also in our body […] Connecting to our bodies alters our state of mind as much as our thinking mind influences body chemistries, posture, and function. (Tufnell 2017a: 125)

Tufnell's claim here is supported by existing research in cognitive psychology, which broadly maintains that abstract cognitive states are grounded in states of the body and using the latter affects the former (e.g. Lakoff and Johnson 1980,

Miles, Nind and Macrae 2010, Thelen 1995). For instance, though they acknowledge that what is meant by 'embodiment' in cognitive science is disputed, cognitive researchers Wilson and Golonka (2013) state that 'The most common definitions involve the straight-forward claim that "states of the body modify states of the mind."' Likewise, Robbins and Aydede (2012: 5) note that, 'actual motor behaviours, not just activity in motor areas of the brain, can influence attitude formation.'

Further, Olsen notes that meaning-making processes do not only go from physical movement to cognitive reflection, but that reversing the directionality of processing equally creates meaning and informs. She directs choreographers receiving feedback to 'Let words seep through the layers of the nervous system, so you can feel their impact. […] If you close your eyes and move, what does your body engage of all those words and ideas?' (2014: 131). It is clear that for Olsen, embodiment is an integral, constituent part of cognitive processing that both extends beyond the cerebral and is cyclical between moving-thinking-feeling, in any order.

In sum, as Stevens and McKechnie assert, 'Cognition in dance is quite literally embodied knowledge […] "embodied" in the sense of the body as a medium whose movements carry information, for performer and observer, about physical, conceptual, and psychological aspects of the world' (2005: 155-156). Their assertion reiterates that meaning-making in dance, and in Somatics-based dance practices, is embodied cognition in action. In my analysis, I claim that Olsen, Tufnell, and Reeve's practices and perspectives each evidence the gamut

of Shapiro's (2011) programs of embodied cognition. Though Olsen and Reeve most clearly evidenced Replacement and Conceptualization theories respectively, data from all three testify to a belief that embodiment is not merely causal, but constitutive of meaning-making cognitive processes in Somatics contexts—or, as Olsen summarized in our interview, 'believing that the body has intrinsic intelligence' (Olsen 2015).

8.6 Conclusion

Meaning is a key theme that emerged in my analysis. It is a complex topic, one with research paradigms dating back to the classical era. In accordance with some existing schools of thought on referential and humanistic meaning, my analysis identifies two main forms of meaning in the data: semantic (or specific, speaker meaning), and macro (or a holistic, humanistic meaning). Either form of meaning may be used to communicate information, whether to oneself or others, and the general nature of both may be the propositional and implicational meaning central in the ICS model.

My research shows that meaning accessed in somatic practices is largely implicational meaning that carries a wealth of nonverbal, pluralistic, associative, and affective information. As Tufnell claims, 'Movement offers a language where words fail, bridging the gap between the buried inner territories of our feelings and the landscapes and people who form our world' (Tufnell 2017a: 4). Once generated through movement, this nonpropositional meaning is then generally processed for deeper understanding, or capture and documentation, through a

process of transposition into propositional forms, imagery, and words. This reflects both the multimodal nature of dance and allows for a shift from semantic to macro meaning. For Tufnell, Reeve, and Olsen, this transposition process often takes the form of writing, though the writing that is produced reflects its original nonpropositional nature by frequently maintaining a poetic sense rather than a linear (propositional) prose form.

Furthermore processing the meaning made in somatic practices occurs through 'resources, plural […that] include the brain but also the body, the environment, and the relations between these things (e.g., the motion of our bodies through the environment)' and is not limited to cerebral processing (Wilson and Golonka 2013). This situates meaning-making in somatic practices within embodied cognition perspectives. In my analysis I was able to evidence each of Shaprio's (2011) three programs of embodied cognition; these included Olsen's emphasis on perception with Conceptualisation, Reeve's Gibsonian approach with Replacement, and belief across all three artists that the body is an essential component of cognitive processing and meaning-making with Constitution. For, as Tufnell noted, in her practice, the mental and physical are interwoven, balanced between the body and mind, the cognitive and physical (Tufnell 2016a). Or, as Reeve succinctly sums up, 'the movement doesn't *carry* meaning, it *is* meaning in somatic practices' (2016a).

CHAPTER 9. FINDING FORM, QUESTIONING USEFULNESS

9.1 Finding Form

The meanings uncovered in Somatics-based creative process are essential in creative choice-making processes; therefore meaning is linked in my analysis with the act of 'finding form'—a theme which may be thought of more broadly in dance as the *act* of choreography. This chapter will begin by addressing the key theme of *finding form*, and will subsequently cover the related shared theme of *usefulness*.

My inquiry into choreographic practice stemming from Somatics, and the form-finding therein, arises from Olsen, Reeve, and Tufnell's reflections on their creative practice (rather than my direct observation of their choreographic process as noted in Chapters 1 and 4). In my analysis, form is given when a choreographic impulse, or intent, is manifested in the dance-making process. *Form* is thus a broad term, and encompasses acts of 'setting' movement (as in Olsen's practice), developing and ordering an improvisational score (as in Tufnell's), or organizing the content and order of a process-sharing-as-performance (as in Reeve's, an aspect of her work that is the focus of Meehan 2018 in press). Olsen (2015) claimed that Somatics facilitates a discovery of personal meaning and 'artmaking is having the skills to bring that discovery into a clear, communicative form.' She further claimed creativity is when someone is in the process of authentically discovering something and 'the form is congruent with the emerging discovery' (Olsen 2015). For Tufnell, creativity is when novelty finds form (2016a). Reeve said, somatic practices cultivate a fullness of

self, in which, 'my [bodily] form is informed within a form' (Reeve 2016a). Each of these interview excerpts point to form-ing; in my analysis, excerpts on *finding form* are organised around several sub-strands: the personal, congruent, emergent, and choreographic.

Finding form for the meaning arising through embodied somatic practices can be considered the act of choreography, and the type (or extent) of form-setting can vary. However, each type of setting aligns with psychological understandings of creative process, because each involves selection of the most appropriate choices from an initial generative phase. Tufnell's (1990) text, *Body, Space, Image* illustrates this congruency with psychological models. In it, she touches upon this selection process of creativity following the initial generation of divergent ideas (e.g. in Sowden, Pringle, and Gabora 2015's dual model of creativity). She references novelty, the 'eureka' moment (Simonton 2011a) and the connection between parts (echoing both Stevens et al.'s 2003 research and combinatorial models like Koestler's, Welling's, or Mednick's discussed in Chapter 7), as well as the impact of expertise on creativity (Simonton 2011a; Ward, Smith, and Finke 1999[60]). Tufnell writes:

> The structuring task is one of recognizing an emergent form rather than imposing one. The material will seem, as it were, to form itself, form arriving via a process of evolution rather than from any preconceived shape. This requires a continual interplay between making and watching. We refer outwards from the work to the reality of our lives in order to discover structures that reflect the complexity of experience. Imposed forms often filter out this complexity in the interests of order. (Tufnell and Crickmay 1990: 196)

[60] Ward, Smith, and Finke also cite Clement 1989; Langley, Simon, Bradhaw, and Zytkow 1987; Perkins 1981; and Weisberg 1986 as research on the impact of expertise on creativity.

Here, Tufnell parallels Reeve's ideology of a form that emerges through the process, rather than planned and set in advance. Reeve summarises her 'approach of creating the conditions for devised material to emerge,' and the 'trial and adaptation' through which 'the score is adapted and re-enacted until an acceptable "product" emerges' (2008: 144, 74). Indeed, 'emergence' was one of Reeve's key ecological lenses in her doctoral research (in which she articulated her *Move into Life* practice and delineated the 'Ecological Body' perspective which now forms part of the *Move into Life* workshop cycles). She states, 'oblique, discontinuous or associative leaps often mark the emergence of unexpected material within a process of creativity. […] Choosing emergence as the third lens offered a way of looking ecologically at the totality of form and content within each project' (Reeve 2008: 83). This form and content are not only emergent, but also personal—the associations are individual. And further, if the 'product' is indeed creative, it must be congruent with the meaning that catalyses the form. Thus, in my analysis, emergent, congruent, personal, and choreographic are all aspects of finding form. I will now offer some examples to illustrate these sub-strands of the finding form theme.

9.1.1 Personal

The previous two chapters, on novelty (7) and meaning (8), highlight the importance of individuality in defining these concepts within a somatic movement context. In finding form, again individuality is a key concern; form in the data was often related to discovering an individual's personal style rather than adherence to an externally-defined set (or technique) of movements. For Tufnell (2016a), the form 'works' and a piece is creative when 'somebody's

whole image world comes to bear in a dance'—their 'whole image world' meaning their whole person, not only sensation but also imagination, the images that are uniquely theirs. Reeve reported that her process resulted in 'an embodied piece of theatre, a "movement of incorporation"[61] which remained fluid and open to external influences throughout both the rehearsal and performance periods' (Reeve 2008: 168). For her, an important distinction occurs: her work is an 'incorporation,' as opposed to an 'inscription'—a generation of new, personal form rather than reiteration of existing patterns of movement inscribed onto one's body (2008). She views her practice as 'support[ing] the emergence of an individual's movement vocabulary which is "in-formed" by their particular unique body' (ibid: 58). Further, she notes it is about being 'able to find one's position, which is a constantly changing phenomenon' (Reeve 2016a), again emphasizing the incredibly personal nature of that form-making—not only of the individual, with their unique bodily form, enculturation, and history, but also of the individual-in-this-ever-changing-moment.

Olsen also emphasises the personal aspect of finding form. In the interview, she claimed that in a Somatics course, 'people are going to be moved individually and as a group to try and explore things they've never done before, as well as investigate who they are and what they're bringing from their own personal and cultural heritage, into some kind of form-making, art-making' (Olsen 2015).

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[61] Reeve borrows the term from anthropologist Tim Ingold, citing his definition of 'embodiment as a movement of incorporation rather than inscription, not a transcribing of form onto material but a movement wherein forms themselves are generated.' (Ingold 1990: 215, as cited in Reeve 2008: 168).

Here, she not only touches on previously discussed themes of connection, novelty, and meaning, but also notes that the progression culminates with form, which she equates to art-making.

Though both Olsen and Reeve work with artists other than dancers, Tufnell most explicitly relates form-making across disciplines in her published work. For Tufnell, form-making from Somatics occurs in a range of artistic modalities. She notes, 'Creating (moving, drawing, writing) moment by moment, in response to what we notice or feel, allows whatever needs to be expressed to find its way into form' (Tufnell 2017: 145). Here, personal meaning—what 'needs to be expressed'—is individual, both in the artistic discipline chosen as well as the structure and content of the emergent meanings. Regardless of the type of form produced, the nature of form-giving across all three artists is personal in both content (personal history and meaning) and structure (e.g. the discipline chosen—in this research, dance—and thus the shapes the bodies make in both time and space as well as the framing of the movement).

9.1.2 Congruent

As Tufnell notes above, 'whatever needs to be expressed,' or the emergent personal meaning, will 'find its way into form' through somatic practices. The forms that emerge, in structure and content, carry a wealth of latent (particularly ICS's implicational) meaning. What form emerges, if it is to be considered creative, has to have some sense of congruency with the meaning. In regards to determining what works are *creative*, Olsen notes, 'you can tell when someone is

authentically discovering something and finding form to match that discovering' (Olsen 2015). Her perspective is reiterated in her workbook for choreography, when she instructs makers to question, 'Does the overall form serve?' (Olsen 2014: 130). Olsen (2016) states for a work to be successful and creative, 'it's got this integrity to it about the way that it's being made and conceived, its purpose.' This integrity, this 'matching' or 'serving,' all point to a congruency between the form an artist chooses and the underlying meaning or intention of their work. I argue somatic practices help facilitate the discovery of a congruent form, as a product of awareness of habit/novelty and meaning-making, each themselves products of a refined sensory perception. Or, as Reeve (2015) notes, 'when I enter somatic awareness it's as though I'm really in the field of sensing […] And at the same time I have this inner landscape, this inner world that is absolutely congruent with the movement. It is the movement, and the movement is it.' Here, Reeve highlights how movement generated—given form—in somatic practices is congruent with and reflective of internal, individual meaning-making.

9.1.3 Emergent

Another important thread of the form-finding theme is that it is emergent, rather than pre-conceived or pre-known. As Tufnell (2017a) notes, 'The choreographic shaping comes from an immersion in a field of interest and an organic emergence of form.' *Form* in this sense arises directly from the lived experience of the moving body and all of the personal associative meanings that come from perceiving the moving body from within. This emergent quality is key to accurately conveying those meanings. As Olsen noted in our interview, 'my work

is always trying to come from the body up, but really appreciating how language and creative forming can freshly articulate what's happening at the whole embodied level' (Olsen 2015). She acknowledges creativity in dance work by recognizing 'a feeling quality of emerging possibility' (Olsen 2015). Likewise, Tufnell discusses finding 'means of expression—to find ways of giving form to what is sensed,' rather than attempting to fit 'what is sensed' onto a pre-designed form (Tufnell 2017a: 152).

As noted earlier, 'emergence' was one of Reeve's key ecological lenses. Beyond this lens though, an emergent approach characterises Reeve's practice and artistic work. For example, when describing a dance she created for her wedding, Reeve said her focus was to 'allow myself to be seen in that emergent process' (Reeve 2014b: 74), and she sees movers as 'An ecological self, which [she] define[s] here as being-becoming-being, [that] rests in impermanence and is settled in the unknown' (2015b: 325). This sense of impermanence and emergence permeates her work. Reeve's overall 'intent [is] on developing a somatic practice which "incorporates" current western ecological thinking. This notion of "incorporation" includes a sense of becoming-through-motion' where forms are generated. As noted above, this emergence is not inscription, a transcribing of form onto material, a distinction Reeve claims 'is crucial' (2008: 60). Not only is the form's emergence crucial, but indeed the very fact that the form *is* emergent means in finding an appropriate, personal expression, one is translating the meaning arising from somatic practices into a distinct form, into choreography.

9.1.4 Choreographic

As choreographer and dance researcher William Forsythe (n.d.) states, 'Choreography is a curious and deceptive term. The word itself, like the processes it describes, is elusive, agile, and maddeningly unmanageable;' it is another term lacking a clear, ubiquitous definition within the dance field. My view on *choreography*, here informed by Reeve, Tufnell, and Olsen's perspectives, is a progressive one, and one which may not be shared by all in the field of dance (or even dance studies), however it is not an unrecognised perspective either (see, for example, Blades and Meehan, 2018 in press). The shaping of choreography in my perspective can take many forms, ranging from improvised to set movement. Finding form, in my view, is not limited to reproducible 'steps,' but rather emphasises intentional, communicative movement. This rejects the historically 'accepted dichotomy between improvisation and choreography' as a binary (Kraut 2010: 39). Olsen identifies this traditional separation when, in *A Place of Dance,* she presents improvisation, composition, and choreography as distinct foci: here, she claims improvising is inclusive of a spectrum 'from moving spontaneously to the advanced practice of composing while dancing' and 'can be used as both a mode of performance and a resource for choreographed and composed work' (2014: 67). Whereas, she states, 'Composition is arranging. It involves the what and where of a thing [… and] addresses the underlying structure of a dance' including space, time, energy, dynamics, and movement vocabulary (2014: 75). She contends a trained compositional view allows for meaning-making in choreography, which she

defines as 'involv[ing] the why of a thing. […] It's a form-giving process that draws on all your resources' (2014: 83). For Olsen,

> Choreographing creates a work that is generally repeatable, while requiring ongoing spontaneity of the performer(s). Awareness, specificity, and surprise apply to both set and improvised dances. Yet the experience of shifting to choreography from composing and improvising requires looking for clarifying patterns. (2014: 83)

However, though it is subtitled *A Somatic Guide to Dancing and Dance Making,* Olsen's *The Place of Dance*[62] is more broadly inclusive of dance and dance-making practices generally; it extends beyond Somatics-based choreographic practice. Perhaps this, and the fact that she has long worked in higher-education settings where these practices (improvisation, composition, choreography) are teased apart in a progressive pedagogy, is why the distinction appears—for even Olsen (whose work is most often improvisational in research but set for performance) observed in our interview that even in 'work that's being improvised…there's a lot of form in it, […] there's an element of it that's quite communicative' (Olsen 2015). 'Form'-finding generally is more where I define the act of choreography, and is inclusive of both the simple manifesting (movement generation) and the 'form' Olsen identifies here—of more complex shaping, with an intention towards communicability—therefore in this thesis, *choreography* encompasses both form and content.

[62] Olsen confided to me that she added the subtitle to emphasize the centrality and importance of embodied experience, to avoid it being otherwise eclipsed by concept, style, et cetera, as she has observed in some work and dance educational settings.

Like Forsythe, Tufnell questions 'choreography' as a limiting term—pointing both to the traditional understanding above, and to choreography as one potential outcome from her practice among many, which she feels 'is about opening up to life on every front' (2017c). Her work is multidisciplinary performance, and therefore involves 'choreographic shaping' (2017a) as mentioned earlier. Tufnell (2017c) stated that her work 'always remains improvised. But within a certain framework, a named territory,' that is returned to in performance anew each time (2016a, 2017b and c). She spoke about framing tools, such as spatial, task-based, or temporal markers in her improvisational scores, and therefore distinguishes her *choreography* from set movement.

Though Reeve also identifies as a choreographer (2018), she notes she is one for whom 'choreographic practice is taken as a term applicable to daily life as well as to artistic performance' and prefers the term *facilitator/director* (2018 in press, 2018). Meehan (2018 in press: 129) notes about Reeve's work that 'the practice is an underscore to the performance work, and Reeve embeds the practice in the performance through various strategies.' As such, her choreography is ordered and communicative, but is a sharing of process rather than setting of movement or improvisational scoring. She is perhaps the most progressive, not separating her performance or practice from 'daily life choreography' (Reeve 2018 in press), or movement and meaning-making in work/life generally, retaining an improvisational perspective yet removing choreography from its traditional performative context altogether.

Therefore, the artists I studied work across the spectrum of traditional, set movement to an all-inclusive perspective, implying that somatic practices might open up perspectives of what is considered *choreography*. Ultimately, however, though somatic practices may impact daily life for all of the artists, the set-ness of work made, as well as how far they extend the definition of *choreography* is individual. Because of this plurality of perspectives within my sample, I choose to take as an operational definition for this thesis an inclusive, open understanding, which necessarily enfolds improvisation, composition, and repeatable 'choreography'[63] and includes the generation of both structure and content in dance-making.[64] For, as Forsythe (n.d.) notes, 'To reduce choreography to a single definition is not to understand the most crucial of its mechanisms: to resist and reform previous conceptions of its definition.' Despite whether the work is set, improvised, a process-sharing, or otherwise, there are two elements of the form generated which I found shared across my data: first, that form was manifested—in a way this is the 'movement generation' which is the focus of much cognitive research on choreographic creativity (e.g. Kirsh et al. 2009, May et al. 2011), and secondly that it was relational.

[63] Here, though my usage includes these, I do not mean to imply that I view these practices as 'the same' (rather, more akin to parts of a whole), nor to negate the usefulness of distinguishing them, particularly pedagogically for developing choreographers, as Olsen does in *The Place of Dance.*

[64] Though, as stated previously, here I rely mostly on the artists' stated perspectives and written work to arrive at my 'definition' because I did not participate in longer and more formal dance-making process with them, this perspective is also reflective of my experience in working with the artists—for example, setting and ordering short phrases for the informal performance of the BEING score performance with Olsen's *Body and Earth* course at Bates Dance Festival, or improvising process-sharing at the end of the artist retreat in Coventry with Reeve.

9.1.4.1 Manifesting/Generative

Somatic practice, like much improvisational practice, is a generative one. It creates movement, sometimes through a sense of being danced (Olsen 2014: 68), rather than intentionally planning and executing movement (Foster 2003). As Foster (2003: 7) notes, engaging in improvisational practices like these, 'is to compose extemporaneously, and composition is an arrangement into proper proportion or relation.' In this in-the-moment composition, movers physicalize their own bodies' semantic and metaphoric potentials, creating shapes in and with their own bodily form as well as in space and time. As Reeve notes, 'The movement studies could be seen as practical exercises in generating forms through movement' (Reeve 2008: 200). These forms are not always consciously composed, but always generative. The first step in choreography is the generation of movement, which is then refined, either selected or discarded, put into a contextual framing, and composed (Predock-Linnell and Predock-Linnell 2001)—becoming relational, the second facet of choreographic form in my analysis.[65]

The generation of movement is itself an act of finding form for emergent meaning. The body both carries and conveys meaning; subtle and slight shifts of weight, position, effort, et cetera alter the meaning it creates. Attending to a first-person felt sensation of the body in movement, and the cognitive processing through which one makes meaning of that movement, is inherently a generative

[65] As Olsen noted above, some advanced schools of improvisation combine this first step with the next, e.g. compositional improvisation, where the composition of movement/space is always a consideration in the improvisation. However, though they share an improvisational approach, it is not my experience that such an approach, which necessarily takes an external perspective in order to 'see' the composition as a whole, is common in Somatics contexts, where the first-person sensing body is given primacy of attention.

act. As noted above, Reeve refers to this as *incorporation*, **'**a movement wherein forms themselves are generated;' she notes that 'to articulate through movement the borders and surfaces, where medium (space) and substance (form) meet' is the first step in her practice (Reeve 2008: 270, 93). In our interview, Tufnell, like Foster (2003), notes the 'surprise' inherent in such generative improvisational acts; she states when considering creativity, 'I think surprise is an important thing, because something new *has come into form*, has arisen, has happened' (Tufnell 2016a, emphasis mine),

9.1.4.2 Relational

The second shared characteristic of choreographic form-finding is that the form is relational. This is important, as the defining characteristic which separates choreographic work for performance from other somatic practice is that it is shared. It has an audience, and the audience must therefore be considered; the work must be relational on a transpersonal level. Olsen (2015) made this distinction, noting that somatic practice becomes choreography 'if you can harness it in a form.' In choreographing, she claims, 'you're a form-giver so someone else can have this experience' (Olsen 2015). Tufnell correspondingly connects giving form with communication, indicating the relational nature of 'forming,' or what I would call the act of composing choreographically (Tufnell 2017a: 153). Reeve also notes the importance of 'forming' and developing the initially generated movement:

> An apparent lack of 'form' in movement can be both frustrating and exhilarating. [… Somatic] movement practice means that I have to recognise, develop and create a vocabulary from my own particular

> background and have to be able to dialogue with the specificity of other practices. (2008: 12-13)

Additionally, Reeve outlines the development as a progression from 'awareness of both structure and space through movement' to responding to inner and outer stimuli, followed by responses to other movers, the environment, and finally an autobiographical intention which is then presented in a performance setting (2008: 93, 95-100). For Reeve, like Olsen and Tufnell, consideration of the form's relational nature is quintessential to creative choreographic work: when questioned about how she identified work as creative, she commented, 'I have to be moved, one way or another. Or I'm woken up to something, there's something that steps into a different gear when art work, when dance work is truly creative' (Reeve 2016a).

I thus claim that balancing an awareness of the inner sensations and impulse to move with an awareness of the outer setting and how the work will be perceived is compositional thinking. And further, this type of awareness and compositional thinking are methods that improvisational Somatics-based contemporary dance particularly contribute to an understanding of *choreography*. In this claim, I echo Reeve's sense of progression and Olsen's distinction between practice and choreography; for Olsen, somatic practice without the consideration of the relational is not particularly performative—she says, 'you really don't want to watch it. It's all theirs. It's not relational' (2015). Tufnell and Crickmay likewise conclude,

> What prevents the work becoming esoteric—a private language—is an opening of attention to the world in which it takes place; the interlocking realms of personal and public experience. […] Viewing the emerging improvisation with an awareness of these contexts is part of the process of

> shaping it. The making of a work it not just a matter of structuring it internally but is also to do with locating it in terms of place and occasion and in its particular historical moment. (Tufnell and Crickmay 1990: 203)

This 'shaping,' this consideration of both internal and external structure is the relational strand of finding form; it is essential in a consideration of Somatics-based choreography, as it is what shifts the movement from practice to performative. Reeve agrees, warning, 'if somatic practices delve too deeply inwards without paying attention to the outwards' they lose their impact; she claims a balance is needed 'for it to be fundamentally useful' (Reeve 2016a). This brings me to the final key theme in my analysis, that of *usefulness*.

9.2 Usefulness

Finally, as I sought to explore how the aspect of 'usefulness' (as noted before, central to a psychological definition of *creativity*), might be conceived, experienced, or understood within the Somatics and dance community. Again, my analysis was inductive, examining 'usefulness' through a variety of related terms; this reflects the variety of terms used in research on creativity, where 'usefulness' includes terms like *value/valuable, appropriate, significant, adaptive*, and *utility* (Mayer 1999: 450).

As Kaufman (2016: 52) notes, the question of what fulfils the 'useful' criterion to the psychological definitions of *creativity* is a difficult one when it comes to studying creativity in the arts. This is especially problematized within contemporary dance because of its ephemeral and plurisemic nature—a dance like the 'electric slide' might be useful to get your relatives up and moving at a

wedding, but what about an artistic work? Some contemporary research has tried to amend the pervasive psychological theory. Cropley and Cropley (2009, 2008, 2010) have proposed a distinction between functional and aesthetic usefulness by adding two criteria to 'novel' and 'useful: 'genesis' and 'elegance,' the latter of which is said to incorporate aesthetic considerations and be applicable to arts. In their model, aesthetic products need not be useful but must be elegant. Likewise, attempting a definition inclusive of several theories, Plucker, Beghetto, and Dow (2004: 90) claim that creativity 'is the interaction among aptitude, process, and environment by which an individual or group produces a perceptible product that is both novel and useful as defined within a social context.' In this, they echo both Amabile's (1982) social perspective and distributed models; however, their qualification that it is 'defined within a social context' and the Cropleys' 'elegance' still implies, as in most psychological assessments, an externally-validated measure of use to designate something creative (e.g., whose standards of elegance and what aesthetic preferences are the benchmark?).

Somatics, on the other hand, is a field which is necessarily concerned with individual authority and the subjective perspective. This criteria for usefulness as judged by others is counter to the non-judgmental nature of somatic practice—the very aspect which constitutes an 'essential ingredient' for change (Batson and Wilson 2014: 130-131), and therefore the novelty which has been claimed to be more important than usefulness in determining creativity (Diedrich, Benedek, Jauk, and Neubauer 2015, as cited in Kaufman 2016). Perhaps the 'usefulness' emerging from somatic practices is better reflected in a

spectrum model like the Big-C and little-c distinction first introduced by Csikszentmihalyi (1998). Kaufman and Beghetto's (2009) recent update of this spectrum offers a distinction between the following 'types' of choreography:

- micro-C (personal),
- little-C (everyday, but recognised by others, as when one prepares a meal for family),
- professional-C (recognised by those in the field as novel and useful), and
- Big-C (ground-breaking discoveries of eminence).

Their model asserts the necessity of expertise in surpassing little-C creativity regardless of domain. In this model, the individual rating of a creative product's usefulness would be on the micro-C level (as in personal somatic practice, aimed more at self-discovery than choreographic or performative goals). Little-C would approach a transpersonal element, but still depends on the ratings of others to determine usefulness. This problem repeats in professional- or Big-C ratings.[66] Furthermore, my analysis illustrates how expertise (namely in a refined sensory perception) contributes to creativity in Somatics-based contemporary dance choreography, whereas Kaufman and Beghetto's spectrum ultimately equates expertise with the 'big-C' end of this spectrum which inherently includes external judges. Perhaps because as shown in the themes elaborated above, what is *personally* useful (little C) *becomes* transpersonally meaningful in somatic practices, Somatics necessarily defies both the dominant trends to study

[66] Of course, as I have spoken about the choice-making process inherent in dancemaking, one might argue judgment is an element of that, even in Somatics-based choreographic practice; however, I would counter that determining appropriateness/fit to most accurately reflect a movement intention, e.g. discernment in selecting the most apt movement or context, is not comparable to the pressure of external judgment, or self-judgment. Further, in creativity testing historically, a non-judgmental environment is seen as beneficial while those determinations are necessarily made; being assessed negatively affects creativity (Runco 2007: 45).

professional or elite-level creativity in psychology *and* collapses the levels of distinction between big- and little-C models. It may, therefore, not be advisable to consider usefulness of the choreographic product, and instead look at usefulness within the choreographic or creative process, a perspective emphasizing discovery over goal attainment, process over product—ultimately espousing qualities which characterise Somatics itself.

My analysis of the artists' perspectives on what is 'useful' in somatic practices, coalesced into two main strands: wellness and creation. However, the theme of usefulness is one area in which psychological definitions may be problematized through a somatically experienced understanding of creativity. As with novelty, in my data the emphasis was more on individual and subjective assessments of usefulness, rather than the broader general-population application understood widely in psychological contexts.

9.2.1 Wellness

Though it is a given that these artists view Somatics as 'useful,' considering they have dedicated their lives to their respective somatic practices, I questioned each of them as to whether—and how—they viewed these practices as useful. Many of their responses centred around various aspects of improving wellness or quality-of-life. This included, perhaps reinforcing, the forms of meaning-making covered in the previous chapter, e.g. making meaning both *in,* and *of*, life. By which I mean, in my data, somatic movement was used as a form of digesting specific experiences and also as a method to know oneself better, to enrich one's

life as a whole (e.g. macro meaning). For example, Reeve stated that the Amerta Movement practice from which she created her own was about, 'making less the identification with one's small self. And therefore blossoming into one's full potential,' and her practice is likewise 'that process of movement, [of] trying to gradually bring the past into now and then make a choice that goes towards the kind of future one would like' (Reeve 2016a).

Olsen's definition of *creativity* reflects this theme of wellness. In our interview, she repeatedly emphasized that creativity was generative, and that though there were artists who make work that might be viewed as novel because it is shocking, only if it was providing a *positive benefit* would she class it as creative. She stated, it is 'life-sustaining rather than life destroying […] It's almost like it brings health to the community or the person. In other words, it's not inherently destructive. There's something about it that's supporting life' (2015). She claimed that 'the somatic practices to me address the magic […] about what happens from inside that make some dancers glow' (ibid.). This positive, beneficial view was reiterated when Tufnell (2016a) claimed, 'When I haven't been dancing [somatically], I definitely feel more solid, less responsive, more locked in in slightly out-of-date thoughts.' Here, alongside usefulness, she reiterates themes of novelty and the positive change from Chapter 7. The sense of 'solid' and 'less responsive' was negative—'locked in,' restricted, trapped, whereas a sense of freedom and release was associated with regular somatic practice. She continued later in the interview, 'people when they do this work […] almost unanimously say they feel they're free, they're being free. And I think that's wonderful' (Tufnell 2016a).

Another facet of wellness was about knowing oneself more intimately, not only facilitating a sense of embodiment and refined sensory perception (discussed in Chapter 6), but also establishing a more secure sense of self. Reeve spoke about how somatic practices were useful 'to get to know different aspects of who this being is,' meaning the process of continual self-(re)discovery that she feels is an essential component of Somatics (Reeve 2016a). Olsen similarly discussed how Somatics gives people the resources to go deeply into their bodies, their embodied histories, and into their creative life and process things in a way that will not overwhelm them (Olsen 2015). Tufnell also noted that we learn about ourselves on a fundamental level, claiming, 'because our experience of being a body is so fundamental to who we are, it's really the foundations; we're going to the foundations in doing this work' (Tufnell 2016a). She discusses how through somatic practice, we 'become at once more permeable to our surroundings and more mutable in ourselves […] offering the possibility of coming away from the work with a more diverse and flexible idea of who we are,' again indicating both a positive, healthy change *and* a deeper, more full sense of self (Tufnell and Crickmay 2004: 290).

Somatic practices' use was also evidenced in macro meaning-making, an aspect of well-being. For example, Reeve (2016a) spoke about Somatics' role in 'digesting experience,' while Tufnell (2016a) claimed that engaging in the type of intentional creative acts that comprise somatic practices 'is what gives my life purpose and meaning.' Tufnell traces a pathway from sensory perception into creativity and this type of macro meaning when she states that through engaging

our senses and imagination, we generate movement and make meaning, accessing 'a vital force that brings a sense of life and coherence' (2017a: 145).

9.2.2 Creation

This sense of life and coherence can be thought of as *actualisation,* Carl Rogers' humanistic psychological theory of people's motivation to 'grow, to develop and to enhance one's capacities' (Glassman and Hadad 2013: 236). Glassman and Hadad note, 'Rogers saw this as an intrinsic property of life. It is the actualizing tendency that stimulates creativity, that leads us to seek new challenges and skills, and that motivates healthy growth in all the myriad aspects of our lives' (2013: 236). In this model, it is only through a sense of wellness that creativity arises—actualisation exists on a hierarchy, occurring only after basic needs are met. Wellness, then, is a predecessor to the other thread of usefulness from my analysis: creation—or, as Reeve claimed, Somatics helps one to choose to become more the way they want to be, and to choose to make their art more that way as well (Reeve 2016a).

In Chapter 8, I discussed how personal (humanistic) meaning, arising from somatic practices, can extend to transpersonal, communicative meaning. It is the creation of this communicative meaning that I group under the theme of 'usefulness,' as it is useful in generating choreography for performance work. Olsen noted during her '*Body and Earth'* course that using somatic practices choreographically means evoking feelings and sensation arising in one's own practice in others (field notes 3.8.16). In discussing the Authentic Movement as a

choreographic practice, Olsen also asserted that movement that could be either useful for incorporating into choreographic framework, or simply 'personal housecleaning' that is 'just for me' and not the stage (field notes 3.8.16, 2014: 70). Here, she indicates the levels of meaning that arise in somatic practice and points to an assessment of meaningfulness from personal to transpersonal, but also highlights the dual usefulness of Somatics—for personal wellbeing *and* as a generative tool for artistic fodder. For Olsen, there is meaning in personally significant movement that arises in Somatics, which may be useful to an individual on a macro or humanistic sense, but it is only meaning which is transpersonal that is of particular use in a choreographic context. Comparably, Reeve noted that Somatics 'is about all kinds of subjects becoming aware of what movement is from their innermost sense of being alive,' reflecting that sense of self as well as connecting it with the conscious creation of movement (Reeve 2016a). She interpreted re-emerging movement patterns in her practice as 'an affective pattern of autobiographical niche significance which [she] could explore in further depth for [her] performance' (2008: 180). Furthermore, having seen such autobiographical (or humanistic) meaning emerge in her workshops, Reeve expected, 'significant personal material' to emerge from her *Move into Life* studies, and that her role as choreographer/director meant she needed 'to transpose that material into a coherent performance' (2008: 207). Here, Reeve reiterates the distinction between personal meaning in practice, and crafting meaning for a performance context—creating—highlighting the dual uses of her improvisational somatic practice.

The usefulness of somatic practices in creating performance work depends upon developing perceptual and cognitive expertise through embodied practices. In ICS, this means training cognitive pathways of information such that more embodied information is realised and retained, which can then be accessed as fodder for performance-creation. Tufnell emphasizes Somatics' role in developing this expertise when she notes that her somatic practice, through improvisation, offers the following uses:

'1. As a source for original material

2. As training in perception

3. To develop a piece

4. As a performance mode in itself' (Tufnell and Crickmay 1990: 45).

Thus, Tufnell links refined sensory perception with novelty ('original material') and creation—her claim that it is to develop a piece or as a performance mode indicates different levels of 'setting' choreography (or various ways of finding form). As Tufnell observes, those who engage in somatic practices find that, 'they're more different in their expression. […] they become more true to who they are. They also become more able to connect, to meet another in an authentic way. […] More themselves. More particular, more unique' (2016a). This is the 'idiosyncratic pathway, […] the idiosyncratic voice that's trying to come out, not the pre-known […] not falling into the familiar' that Olsen claims are uncovered in somatic practices (2015).

9.3 Conclusion

In sum, here I have presented the final two themes that emerged from my analysis—that of finding form and questioning psychological models of usefulness while offering individualised perspectives of wellness and generativity as alternatives. Tufnell identifies these themes' relationship in discussing 'Forming/transforming' (Tufnell and Crickmay 2004: 163)—it is in the finding of form which we discover the use of somatic practices to transform our choreography, to unearth something new and meaningful and creative. Discovering and shaping the form that emerges through somatic practices, I argue, is broadly the choreographic act, a perspective in line with psychological models of creativity as the generation and selection of potential ideas.

Offering examples from each of the artists' perspectives, I concur that the form is emergent, is personal, and if it is to be understood as creative, must be congruent with the underlying meaning it is conveying. Further, the form is individual—not pre-known, and not adhering to external aesthetic ideologies. Both the meaning one's dance conveys and the shape it takes (whether set or improvised) are individualistic. The second theme covered in this chapter was usefulness. In my data, usefulness of somatic practices for choreographic contexts came as not only in the generation of movement form and content, or 'creation,' but also in the understanding that the practices (and forms and meaning generated) led to wellness. As Reeve stated,

> I would define *creativity* as an approach to life that is based in the processual, the process, and that's based in a sense of life as a co-creation between what I'm bringing and what a context is providing that is trying to nourish, support, bring to fruition, create moments of crystallisation,

> blossoming…where the approach is always one of, 'what's the potential here for life, for an expression of life?'

This emphasis on positive change in an individuals' life[67] also reinforces the importance throughout this analysis of the individual, the subjective, when considering creativity in choreographic contexts. Like Nickerson's theory (1999: 394), creativity here is considered more a property of thinking than in terms of products, where the individual's growth and thought are deemed creative even if the products they discover may not be entirely original. For instance, Nickerson gives the example that 'one who rediscovers the Pythagorean theorem, say, is being creative, despite the fact that the discovery is not new to the world' (1999: 394). His individualistic definition of *novelty* can be paralleled in my research with an individualistic definition of *usefulness*—what is useful to the individual can be viewed as creative, and often is in the context of the subjective, first-person approach in Somatics. Or, in psychologist Abraham Maslow's view, 'it is the quality of the subjective experience that determines whether a person is creative, not the judgment of the world' (1960, as cited in Csikszentmihalyi 1999: 314). The creation of forms, its 'potential for life' and wellness is, on a personal level, *useful* in this sense. However, when considering it in a choreographic context, it is essential that the form be relational.

As a chief figure in creativity research, Mikhail Csikszentmihalyi states, though this

[67] Here, perhaps it is worth indicating that this does not mean the content of the choreography, or its choreographic intention, need be positive. Processing negative emotions and experiences is still positive for those creating—and potentially those viewing—as it allows for integration of those experiences, catharsis, acceptance, or the knowledge that such experiences are communal to humanity, for instance.

> quality of subjective experience is the most important dimension of personal life, [he does] not believe that creativity can be assessed with reference to it. If creativity is to retain a useful meaning, it must refer to a process that results in an idea or product that is recognised and adopted by others. […] Therefore it follows that what we call creativity is a phenomenon that is constructed through an *interaction between product and audience*. (1999: 314)

Therefore, taken together, the themes of form and usefulness provide a vital perspective on creativity in Somatics-based choreography. For, as Nickerson (1999: 392) notes, 'Creative expression is generally desirable, because it usually contributes positively to the quality of life of the individual who engages in it and often enriches the lives of others as well,' and one of the types of usefulness is in this positive contribution—in enhancing wellness. The creation of movement, of forms, is an essential component, a *use* of somatic practices, and one that can then be shaped, with adherence to its personal nature, its congruency with the intended meaning, into relational—and creative—choreography.

CHAPTER 10. ANALYSIS OVERVIEW

This chapter reflects on the previous five chapters to bring together key findings. Despite taking different foci, each of these chapters is interrelated in contributing to and evidencing my analysis of the data compiled from my engagement with Reeve, Tufnell, and Olsen's work. My research questions shared perspectives on creativity within Somatics-based choreography: how do we define, identify, and potentially facilitate creativity within Somatics contexts? Chapter 4 outlines the inclusion criteria and themes that emerged in my analysis. Chapter 3 details how, using a combination of phenomenological, grounded theory, ethnographic, thematic, and close reading analyses, I analysed data from open-ended qualitative interviews, participant observation during workshops and retreats, and written works by three artists who are, in my view, creating Somatics-based choreography for performance. Arguments for the validity of my claims were also presented in Chapter 3, and included researcher reflexivity, a search for disconfirming evidence, cross-checks with the artists themselves, and a condensed process of peer review. I introduced the artists and their practices in Chapter 4. Each of the artists is, in addition to being a choreographer, also a well-known and active Somatic Movement Educator. It is my claim that not only the variety of data sources—but perhaps more importantly—the variety of somatic practices and contexts in which these artists work speaks to my findings as communal across Somatics as a field (or at least makes a preliminary step in that direction, owing to my study's small sample size). The themes presented in my analysis are categorized as either *key themes* or *shared themes*, the latter of which serve in my analysis as either precursors to, or products of, the key themes.

Chapter 5 covered shared themes which I grouped under the heading of pedagogical elements. These were shared elements of the Somatic Movement Education environment that emerged across data from all three artists. Though I recognise that these themes are not comprehensive of *all* shared pedagogical elements in Somatics, I argue that because these themes emerged from research specifically focused on creativity, they therefore have bearing on the development of creativity within Somatics-based practices. These themes include: a safe environment; connection to self, other, and the environment; balancing inner and outer awareness; and agency/autonomy/choice. A safe environment contained sub-facets of the importance of arrival and taking time, and a focus on practicing non-judgment. Chapter 5 concluded with a discussion of the connection between these pedagogical themes and the key theme of refined sensory perception.

Chapter 6 focuses on what I view as the change-agent in the process, namely this refined sensory perception. Increasing awareness and training perceptual abilities was key to Olsen, Tufnell, and Reeve's practices, and early in the chapter, I introduce some excerpts to highlight each artists' emphasis on this. I argue that refining sensory perception requires attending to subtlety, and the ability to perceive subtle differences is trained in specific ways. My data illustrates these through slowing and softening the physical body (to reduce stimulation and sense more acutely) and reducing visual stimuli so that other senses may be more closely attended to. These other senses form their own sub-strand, in which I discuss the importance of the multisensory awareness engaged in

somatic practices. The final sub-strand for refined sensory perception is its in-the-moment-ness, which Reeve would call 'calibration,' an attention to sensory perception as it happens, rather than a post-movement recollection or reflection (though these may be important to embellishing meaning that arises in the moment).

Key themes of novelty and habit constitute Chapter 7. First, I inspect the concept of novelty, derived from the widely-accepted psychological definitions of creativity as both novel and useful. I dedicate short sections to each artist, to illustrate how novelty plays a central role in their conceptualisation of creativity. Because my analysis was inductive rather than semantic, novelty as a theme is inclusive of related concepts of the unknown, habit, and change. I discuss how the unknown plays an important role in improvisational somatic practices, and how the awareness of habit is central to discovering novelty—only with awareness of one's habitual patterning can one opt for a different choice. Habit was conceived not only as physical patterning, but also mental, emotional, or interpersonal patterns in my data. The emphasis on *awareness* over *defeat* of habit is one way in which somatic practices complicate psychological understandings of creativity; for somatic practitioners, habit is one option which may or may not be chosen in a creative work—not all elements of a work need be novel for the whole to be considered creative. Finally, I discuss how change is related to the concept of novelty, and how change, within my data, is viewed as creative if it is a positive change towards greater wellness or integration.

Chapter 8 concerns itself with the key theme of meaning. Because *meaning* is a broad term, my chapter begins with an introduction to some historical research paradigms around meaning. I focus on Davis' expression theory as a way of tracing what I refer to as *semantic meaning* and contrast it with humanistic perspectives that I argue consider a broader definition of *meaning*. I also briefly consider the 'Griceian program,' or the communicative nature of meaning-making, and position my perspective in relation to both external and internal (self) 'audiences' of meaning. In accordance with these existing paradigms, my analysis names two main forms of meaning: semantic (or specific meaning), and macro (or broader, humanistic) meaning.

I discuss how the meaning made in Somatics-based practices is largely nonpropositional in form, though it can be transposed into words and writing, and offer examples from Reeve, Tufnell, and Olsen to illustrate. I follow with my proposition that meaning made in somatic practices is not limited to the mind, thus situating meaning-making within Somatics-based choreographic practices as embodied cognition. I trace the artists' perspectives alongside Shapiro's three programs of embodied cognition research, namely Conceptualization (which I feel is most aligned with data from Olsen), Replacement (which aligns most clearly with Reeve's Gibsonian approaches), and Constitution, which I argue all three evidence.

Finally, Chapter 9 closes the themes with a section on finding form, a final key theme, and usefulness, a shared theme and one area in which Somatics may problematize existing psychological understandings. Firstly, I start with form,

and argue that giving form is personal—i.e. form develops from one's own subjectivity and meaning-making processes rather than an existing style or technique. I then evidence that, in my data, a form needs to be congruent with the underlying meaning in order to be successful or creative. Furthermore, the form in somatic practice is emergent—arising through the meaning as it is being uncovered, and again, not adhering to a pre-known. In congruence with my progressive, inclusive definition of *choreography* as including both structure and content of movement-making, I finally distinguish between forms which emerge through somatic practice and choreographic forming. Here, I differentiate two levels of form-finding: the first is the manifestation of movement, which can be considered the generative phase in creative choreographic practice. This generation occurs in both somatic practice as well as creative process. The second level is what I term *choreographic*; I argue, alongside all three, but Olsen in particular, that the intentional composition and shaping of the generated movement with a consideration of its transpersonal relate-ability to an audience marks the further development of the movement arising from Somatics as choreographic.

This chapter offers a summary of the themes that emerged through my data. In my analysis, although these themes were often both experienced and presented as intertwined, overlapping, or interrelated, in order to make 'sense' of the relation of these themes, I understood and presented them as a progression; this progression allows for a logical organisation of the themes, and an illustration of their interrelation to one another (see Appendix 1). Beyond this, the organisation also mirrors that of my own development within Somatics, and

therefore rings 'true' to my experience. Through confirmation of these themes with the artists themselves, I claim that this progression is not only a personal truth, but that these themes are indeed shared across the field of Somatics and represent the ways in which somatic practices help to facilitate creativity in dance. I argue that through these specific pedagogical elements, an appropriate learning environment is created which allows for brave, creative exploration, and trains dancers in specific ways which allow them to enhance their ability to generate divergent solutions to physical (or intellectual) 'problems' in movement. This training develops movers' sensory perceptual abilities, an advancement which is documented within dance training generally (Bläsing et al. 2012); I argue that, likewise, Somatics pushes a dancers' perceptual abilities so that they may differentiate on a more subtle level, and thus perceive of more options in their movement. Thus, I view this refined sensory perception as the 'change agent' in this process.

I further argue that through a refined sensory perception, dancers are able to do two things choreographically: the first is find novelty, through an awareness of habit and conscious choice whether to engage in habitual patterning or not, depending upon which is most suited to the choreographic 'problem' at hand. The second is to make meaning. I posit, through frameworks of embodied cognition and the Interacting Cognitive Subsystems model, that dancers are making both (what I term) semantic and macro meaning—that is, they make meaning on a specific level, and also a holistic, personal level. This meaning, combined with novelty, allows dancers to produce creative choreography.

Finally, I argue finding form is in fact, the act of creating choreography. I acknowledge that my 'definition' of choreography is a broad one, encompassing a range of shaping practices from set movement to improvisation to process-sharing. I further note that *form* comes from the initial generation of movement and progresses into a deliberate shaping of movement with a consideration for the audience such that it is performative and therefore relational. As Tufnell notes: 'The early stages of making a performance […] involve: searching widely, deliberately increasing uncertainty, becoming lost, adding variety and complexity, following wild hunches, attempting the seemingly impossible…' (Tufnell and Crickmay 1990). This 'early stage' Tufnell references is the 'generation and exploration,' the ways in which artists work to discover options and to elaborate and connect ideas (Finke, Ward, and Smith 1992; Smith, Ward, and Finke 1995; Stevens, Malloch, and McKechnie 2001; Ward, Smith, and Finke 1999)—to find form. The later stages of creativity involve the selection from this broad range of ideas (Campbell 1960a; Simonton 2011b; Sowden, Pringle, and Gabora 2015), discovering and retaining the novel through the uncertainty, variety, and 'impossible,' which depend upon the ability to generate a range of options to a task or problem—or choreographic intention. This is the progression to deliberate shaping. Through this shaping, form becomes congruent with the underlying meaning, an element necessary to deem the choreography 'creative' in my study.

I close my analysis with an inquiry into usefulness. Here again, the emphasis on individual perspective in Somatics is, if not at odds with existing psychological literature on creativity, certainly a progressive viewpoint. I posit that somatic

practices' emphasis on individual authority and subjective perspective, as well as cultivation of non-judgment, necessarily problematize definitions and models of creativity which rely on external judges. Thus, I look to usefulness within the process of somatic practice, and concur that usefulness is evidenced by the artists in my study as either facilitating wellness or the creation, or generation, of movement (that might then be choreography). This creation is the epitome of shaping the individual's transpersonal, relational meaning that arises in Somatics, and its 'use' therefore is, in essence, in creative choreography. Usefulness, then, lies in the ways in which Somatics, through all of the previously-discussed themes, allows people to both know, grow, and express themselves more intimately and articulately. Throughout this analysis, I have referenced the Interacting Cognitive Subsystems (ICS) theory; in the next chapter, I will attempt to propose a theoretical audit-trace, or map, of how this process—from the refined sensory perception through meaning—can be traced within this model of mental architecture.

CHAPTER 11. COGNITIVE THEORY DEVELOPMENT

Thusfar, I have presented my analysis of the themes emergent from my dataset. This analysis identifies shared pedagogical elements of Somatic Movement Education which lead to a refined sensory perception. In my view, this refined sensory perception is the change-agent that allows for increased awareness of habit and facilitates the discovery of novelty, allowing artists to express the meaning that arises from somatic practices more acutely. Through these processes of training awareness and mining meaning, we can 'give form' in movement creatively—which, in dance, is the act of choreographing. My aim in this research is not only to identify shared thinking around creativity within the 'dance-Somatics' (Reed 2011) community, but also to propose an explanation of how these themes might operate cognitively.

Thus, in this chapter I argue it is through the expertise that dancers' build through their somatic practice that they are capable of a) seeing divergent options as potentials and b) transposing meaning into movement, thus facilitating a creative choreographic product. To explain my theory here, I will discuss how dancers' refined sensory perception forms a constituent of their embodied cognition, and map how their meaning-making processes form a higher-order cognitive act. I will do this through the Interacting Cognitive Subsystems model (Barnard 1985), because ICS offers a model for 'the primacy of processing of emotional experience at the schematic level over processing at the conceptual level' (Walz and Rapee 2003: 66). First, I begin with a brief overview of the pedagogical elements, supporting their communal nature with examples from existing research on Somatics as well as some representative data

excerpts from my research. As my research questions how this shared understanding in the Somatics community relates to psychological discourse, I then follow with an overview of psychological perspectives on attention and perception. This leads into a discussion of expertise and how it is evidenced in dancers through body awareness; I claim somatic practices can contribute to deepening this bodily awareness. Lastly, this chapter proposes a theory, particular to dance and somatic practices, of how cognitive processes might operate in creative generation. Within the ICS model, I propose how creative cognition, as a result of that expertise, is patterned, and what the understandings from Somatics might contribute to existing knowledge of how dance cognition operates.

11.1 Pedagogical Elements

As noted before, the shared pedagogical approaches across Somatic Movement Education has been well-documented in previous research. In my research, I claim that particular shared elements, including a safe environment, connection (to self, to other, and to the environment), balancing inner and outer, and agency/autonomy/choice all lead to creativity, primarily through their contributions to refining sensory perception, but also through cultivating a sense of self (through macro-meaning and cultivation of personal aesthetic and individual-authority) which allows for confidence in making choices which are novel, not in adherence with field 'norms.' Because I'm interested in the *shared* elements that contribute to creativity development, my research is less concerned with examining the individual work of the artists covered, but rather

with looking at cross-artist, cross-practice shared thinking around creativity development within Somatics-based creative practice. My findings, of the themes listed above, are also commonly evidenced in the wider literature (e.g. Brodie and Lobel 2004, Eddy, Williamson and Weber 2014, Green 1999, Weber 2009, Williamson 2009). Furthermore, previous research notes,

> Key philosophical standpoints, such as the internalization of authority, self-awareness, self-knowledge, and self-education, inform [Somatics] training and aesthetics, as well as community and client practices. Both strands are part of a quiet political movement based on the belief that we have the capacity and personal agency to direct and/or redirect our lives through gentle self-reflexive processes; becoming active agents in our experience, sensually alive, and co-actively engaged with our world. This is a defining feature of Somatic Movement Education generally. (Williamson 2009: 30)

Williamson claims that Somatics develops 'perceptual autonomy' (ibid.) while Eddy, Williamson, and Weber note in Somatics, 'while there is an intense focus on personal internal experience, there is also a central balancing principle of "inner-outer balance." This principle connects the individual to the external and the collective—a connection which further supports self-authority' (2014: 180). Furthermore, they claim (through connectivity to self, other, and the environment, alongside somatic meditation and neuromotor maturation and development), that Somatic Movement Education 'is a profound tool for eliciting the imagination and creativity' (ibid: 178). Therefore, themes in my analysis are also believed to contribute to self-empowerment and creativity development generally. The question remains, however, exactly how somatic practices affect the process of eliciting creativity cognitively.

11.2 Attention and Perception

As noted earlier, to answer this, I propose that somatic practices facilitate a refined sensory perception. But what is meant by this cognitively? Much cognitive psychology has examined sensation, attention, and perception. In brief, research notes that our awareness comes in levels, i.e. cognitive processing begins with the preverbal, nonverbal, or tacit awareness at one end and conscious awareness, or 'thinking' at the other end (Fransella 2004). The higher the order of processing, the more consciously aware one is of a construct. As the *Wiley Encyclopedia of Cognitive Science* defines, 'Attention may be considered as an agency for bringing a stimulus into conscious awareness' (DiGirolamo and Griffin 2006). Consciousness researcher Max Velmans has noted that although there are multiple ways a process may be said to be 'conscious,' perception is only conscious 'in the sense that the operation of the process is *accompanied* by consciousness (of its *results*)' (Velmans 1999: 543, original emphasis). By this he means that our felt sense comes prior to our perception of it, and attending to the perception brings consciousness. This understanding from cognitive science is echoed in the Somatics community. For example, Williamson notes, 'The sensate precedes perception and interpretation; it is valued as a site of change and deep release from fixed perceptual and interpretive patterns' (2009: 33). Furthermore, McHose and Frank elaborate the ways that sensation, perception, attention, and meaning are scaffolded:

> The senses are our doorway to perception. Sensations are to-whom-it-may-concern messages from our skin, our sense organs, our muscles and organs, to our brain. Most of these messages arrive unnoticed. The noticed ones constitute perception. Perception is the interpretation we make of our sensation. […] From raw, unstructured feeling, I rapidly develop perception, a way of knowing and recognizing the pattern of feeling. Each perception will develop an accompanying meaning. (2006: 1)

Olsen (2002: 57) likewise notes that 'where we place our attention (which is a motor activity involving the proprioceptors) affects what we perceive.' Indeed, in order to create perception, one must attend to the sensory stimulus. Psychologists Manichander, Brindhamani, and Marisamy (2015) note that sensation is then the passive reception of stimuli, while selective attention is a discriminating focus of awareness on specific sensory stimuli, ignoring all other stimuli. This perspective was also present in my data, for instance when Olsen (2014: 131) discussed 'your felt sense at any moment in time, interpreted as perceptions—including associations, feelings, and emotions.' She presented perception as a second-level process through Bois's WIGO model,[68] also indicating congruency with cognitive science's claims that perception is a higher-order process than sensation (ibid.).

There are various models of the perceptual cycle, including the previously discussed (section 8.5) Gibsonian affordance model upon which Reeve draws in her practice. Other models of perception include constructivist theories, which argue for mental representations built through sensory perception combined with cognitive processing and previous experience. Neisser (1967, 1978) presents a perceptual cycle which combines bottom-up (like Gibson) *and* top-down (constructivist) theories of perception, arguing that percepts (or mental

[68] Olsen presents this model, by Samuel Bois in *The Art of Awareness* (1966), within her section on 'Words and Feedback.' WIGO stands for 'What Is Going On?' and outlines various levels of awareness, from general events unfolding (sensation) to perception, to higher-order cognitive processing in which judgment and interpretation takes place. In this model, as presented by Olsen, perception includes associations, feelings, and emotions—meaning that she might view sensation as the second-order process and perception as occurring in third-order (particularly implicational) space before the judgments etc. would occur in the propositional subsystem.

representations) don't exist, because perception is unfolding and reconstrued through time. He claims that anticipatory schema interact with attention to create perceptions. However, Neisser refers to a 'mental image' as a 'perceptual set' or anticipatory image of the object of perception, which I would argue is indeed akin to a dynamic mental representation. Thus, Neisser's dual-directional theory of perception is, in my understanding, inclusive of representational and non-representational, or embodied, approaches. I argue that similarly, the Interacting Cognitive Subsystems model bridges 'box model' computational (or information-processing) theories *and* embodied cognition approaches, and likewise features dynamic image processing.[69]

Neisser claims a 'difficulty for the passive information-processing model concerns the use of information from several sensory modalities. […] How are all these inflows coordinated? How do we know which ones to filter out and which to admit to the inner sanctum?' (1978: 90). I argue that the simultaneous multimodal processing within the ICS model answers this question. Knowing what to filter—or adherence to invariants as information flows through the subsystem architecture to create meaning—is precisely the type of skilled investigation of the subsystem's content in which I propose that Somatics trains dancers. By which I mean, these inflows are well-coordinated in an expert, and they are therefore capable of 'admitting' more high, multimodal fidelity of their representational images into the 'inner sanctum' for higher-order processing—a

[69] In questioning Barnard on my interpretation of his model as congruent with embodied cognition theories, he stated that he agreed the argument could be easily made, that ICS *is* an embodied cognition theory; he also stated that it does not feature representations, but rather dynamic images that are not fixed entities like traditional representations (Barnard 2017). I elaborate my perspective of this congruency somewhat in Chapter 12.

pattern I will discuss in detail later in this chapter. Neisser's (1978: 92) other complaint, namely that 'Perceptual activity is not restricted to a single sensory system. […] Adults have sophisticated schemata that accept information from many sources simultaneously and direct explorations of many kinds,' likewise is answered through the multimodal ICS model: not only are the various modal subsystems *interactive*, but the sophistication of the processing (and its content) is modelled through increased expertise—which adults necessarily have through a greater lived experience of the world. Again, I discuss my proposal more later in this chapter.

Now that I have provided a brief summary of what perception and attention mean within cognitive psychology and dance/Somatics contexts, and illustrated their congruency, the question remains: how does this relate to creativity development? Barnard claims the 'use of focus of attention to differentiate and enrich what comes to mind' may enhance creativity in dance because 'shifting focus gives more properties to translate into movement' (Barnard 2013). Comparably, Olsen notes,

> In neurological language, we have to open the attentional gates for stimuli to pass through and be made conscious, and the most frequently used pathways are most easily accessed. As we become aware of perceptual habits, we can make a practice of inviting new information, opening new opportunities for response. (2002: 58)

Here, she connects how perception, and the awareness of perceptual habit, can allow for novelty, for 'new opportunities.' In dance, this may mean novel movement pathways or new choreographic forms. Olsen's perspective is echoed by McHose and Frank when they write, 'Once we are stimulated by sensations, we are awakened to new perception, and this leads to new body shape and

movement impulse' (2006: 1). For creative movement to emerge, they continue (echoing Tufnell's emphasis on 'widening perception'), that, 'the most important point is experimentation and widening perception to what is possible' (2006: 133).

11.3 Expertise

I have argued that dancers who engage in somatic practices are using these tools to refine their sensory perception. In this sense, dancers are gaining expertise in building a sense of embodiment; becoming able to recognize their habitual ways of moving, thinking, and being; and distinguishing between subtle shifts in their physicality which affect (and reflect) the meaning made in their movement. This development of perceptual abilities is not limited to Somatics; indeed bodily awareness is trained in dance practices more generally.

11.3.1 Bodily Awareness

Though 'it is generally accepted that we have a perceptual sense of touch, bodily posture, movement, and of balance,' the *Stanford Encyclopaedia of Philosophy* notes that, generally, 'bodily awareness may seem less rich and detailed than visual awareness' (de Vignemont 2016). Welch and Warren (1980) note that vision can dominate over proprioception and touch in particular. This echoes my earlier assertions that Somatics enhances bodily awareness by engaging senses usually secondary to the visual, either by moving with eyes closed; with a semi-closed, soft focus; or intentionally attending to other modes of perception. De Vignemont (2016) continues, stating that we perceive bodily awareness 'through

external senses, but we have also an internal access to it through bodily sensations,' indicating not only the typical 'five senses' of sight, sound, smell, touch, and taste—but also the interroception, proprioception, and kinaesthesia engaged in the moving, dancing body as perceived from within, the focus of somatic practices. Our body is ever-present in our sensation, yet bodily awareness is rarely in our conscious attention. Psychology pioneer William James stated, 'Our own bodily position, attitude, condition, is one of the things of which some awareness, however inattentive, invariably accompanies the knowledge of whatever else we know' (1890: 242, as cited in de Vignemont 2016). James' perspective again is encompassed in the amalgamated, multimodal nature of information processing within ICS, as sensory inputs are blended into the system at higher levels of processing, whether they are being consciously attended to or not.

Philosopher Brian O'Shaughnessy (1995) posits this underlying awareness of our physicality is as an undifferentiated whole, which becomes differentiated through action as our body parts become the focus of attention. Thus, the 'aspects of ordinary phenomenology of bodily awareness […] normally remain dim and elusive' (de Vignemont 2016), however, movement heightens awareness of the body. To wit,

> perceptual experiences constitutively depend on our ability to keep track of the interdependence between sensory inputs and motor outputs, this ability being grounded in the procedural knowledge of how the way one moves affects the sensory signals that one receives (or how the movement of objects affects these signals). (de Vignemont 2016)

Thus, expertise in perception lies in the relationship between the reorganization of the body through space and time and how it shifts our sensation of our

physicality. Indeed, at early stages of life, our body-representation is formed through action and updated as we become increasingly mobile (Rochat 1998).

11.3.2 Improvement in Dance and Somatic Practices

It logically follows that dance training increases bodily awareness, as we learn more about our body through movement practice. Welch and Warren (1980) claim that accurate body representation requires a combination of multisensory information. And Bläsing et al (2012) confirmed that dance's multisensory engagement does indeed improve bodily awareness. They showed this improvement in dancers can be demonstrated through dynamic balance and positioning tasks when compared to non-dancers (2012: 301). Furthermore, they claim: 'Crucially, dancers often develop and apply these strategies in an explicit way that requires attentional processes and makes them accessible for higher cognitive processes,' and argue these gains are inseparable from cognitive processing (Bläsing et al. 2012: 302). Further, Batson (2009b: 38) claims dancers develop proprioception in order to increase motor control, self-monitoring, and self-correcting, stating, 'Presumably, professional dance training strengthens the accuracy of proprioceptive inputs and shifts sensorimotor dominance from vision to a more internally-based system of reference'. Here, dancers' increased proprioceptive ability was demonstrated in both static and dynamic positioning tests, and is increased even when compared to gymnasts (as well as control groups). Thus, dancers' improved bodily awareness is a result of their ability to perceive and attend to physical sensation, and that is both a result of their dance education and a facet of their cognitive processing; in other words, the physical prowess that dancers exhibit is directly connected to their cognition.

Furthermore, 'Both [S]omatics and dance practices create an embodied consciousness and turn us towards cognition and self-knowledge' (Batson, Quin, and Wilson 2012: 187). Even more so than dance training historically, somatic approaches emphasize sensory, perceptual processes underlying movement skill (Nelson 2013, Enghauser 2007). It is therefore my argument that somatic practices fine-tune bodily awareness through deepening sensory perception. I believe this happens especially through enhancing dancers' interroception, exteroception, and particularly proprioception and kinaesthesia. Gamboian (1997) argues that the body-map may be more accurately tuned using sensory re-education through somatic practices, and Myers (1983) extends this re-education effect to not only a holistic body-map, but the accuracy of movement responses. Myers (1992: 8-9) argues that somatic practices provide knowledge of numerous bodily systems which provide 'various experiences of ourselves,' heightening this bodily awareness.

Indeed, many Somatics scholars have commented on what they believe to be the increased sensory perception developed in somatic practices. For example, Eddy (2009: 8) notes,

> The goal of the somatic movement professional is to heighten both sensory and motor awareness to facilitate a student-client's own self-organization, self-healing, or self-knowing. Movement includes the subtler movements of the breath, the voice, the face, and the postural muscles, as well as any large movement task, event, or expression. Somatic lessons often use touch to amplify sensory experience through the skin, the body's largest organ, and therefore more quickly awaken awareness.

Likewise, Brodie and Lobel (2004: 82-3) note that the Somatics pedagogical element of connection to the environment:

> can assist with being fully present in the moment, opening the door to increased responsiveness. Attending to information provided by the exteroceptive systems (vision, audition, touch, taste, and smell) provides the proprioceptive system with information necessary for accurate and appropriate reaction to stimuli.

And, from my own sampling, Tufnell (2017a: 105) observed, 'Somatic approaches train a bodily listening that is highly sensitive to these bodily movement tones and patterns,' and notes that somatic practitioners 'listen for micro-movements invisible to the eye yet palpable to the touch,' a perceptual refinement allowing the sensing of subtle differentiation which can lead to, in her words, 'a whole-body reorganization.'

This ability to refine sensory perception and attention is often thought to lead to creativity (Kasof 1997, Langer 1989, Rizzo-Sierra, Leon-S and Leon-Sarmiento 2012, Zabelina et al. 2015). Eddy argues, one benefit of Somatics' inclusion in dance education is that it offers 'inroads to creative process' (2009: 23). And, as, Clarke, Cramer, and Müller claim, dancing establishes 'deeper embodied connections to the self (soma) so as to become more outwardly expressive' (2010, as cited in Batson and Wilson 2014: 76). It follows, then, if embodied connections create more outwardly expressive dancers, an increased engagement with a sense of embodiment through somatic practices may result in further expressive possibilities. But, as Bläsing et al noted above, these skills are not divorced from cognitive processing. I thus now propose a model for mapping how dancers' refined sensory perception increases their ability to discover novel choreography through the Interacting Cognitive Subsystems model.

11.4 Interacting Cognitive Subsystems (ICS)

I have referred to the ICS model, developed by Phil Barnard (1985) throughout this thesis. I introduced the model's architecture, operation, and complexities in Chapter 2; however, this chapter's purpose is to offer a proposal on how the development of creativity within 'dance-Somatics' (Reed 2011) contexts operates cognitively. I situate my proposal within this framework—thus, a brief overview of ICS is necessitated.

Figure 3: The ICS Model (2012) (from deLahunta, Clarke, and Barnard 2012: 254)
(This figure is re-presented in Appendix 2 for ease of reference).

Barnard's is a macro-model of information processing (2004), proposing a nine-subsystem structure to explain human cognition. It features four 'internal'

subsystems that combine to create three cognitive loops (the spatialpraxic, morphonolexic, and intuitive-emotional, pictured in Figure 4, a simplified version of the full model in Figure 3[70] to draw out these elements). Communication between these forms loops the basis of human cognition, including awareness, perception, and the generation of meaning. The origin of data for each of the loops occurs both internally (in metacognition, or recognition of propositions or emotional states) and externally (from sensory receptors). Deep meaning, located in the two internal, non-sensory subsystems, is propositional (logical, rational, and easily verbalised meaning) or implicational (affective, pre-verbal, abstract emotional/sensation-based meaning). The implicational system permits meaning to be accessible, even if it is unable to be verbalised. In this model, information flow occurs simultaneously between and through the nine subsystems. There is no homuncular central executive controlling the flow (Barnard, Wilson and Maclean 1988, Barnard 1999), rather it is a distributed, self-regulating system.

[70] Note: this is a slightly updated version of the model from the one presented in Chapter 2 (from Weber 2017). This model reflects the same 9-subsystem architecture, though now 'limb' has been renamed 'effectors' and there is a connection from implicational directly to limb/effector, not through body-state, reflecting updates from Barnard's work with dancers.

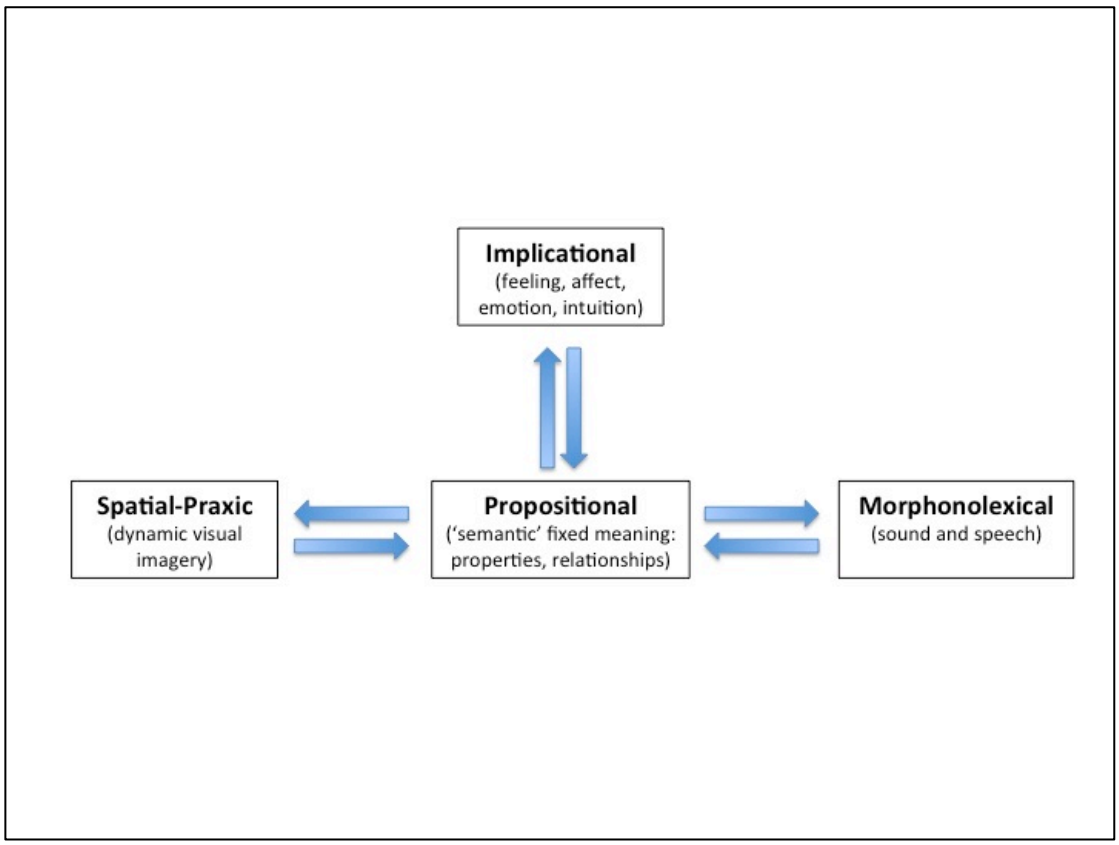

Figure 4: Three Cognitive Loops: A Simplified Version

Because the system is multimodal, objects of perception arrive in the system in multiple forms concurrently, and it is through a buffering process—involving sensory input as well as access of the image record (or memory) that we make 'sense' of them and model a specific image, or part of the sensory input, in more detail. Thus perception is a combination of top-down and bottom-up processes. Information flow within the system is elaborative or abstractive, depending on the focus and flow of information. Abstraction is when information is transposed and re-encoded into another subsystem; the abstraction occurs through a process of simplification of data, where invariants (shared properties from the blended input) from all the input modes are extracted. This means as the information is passed into higher-order processes, it loses detail but retains

central properties or features. Elaboration occurs as focus returns to the less-central subsystems in Figure 3 (Appendix 2), and through buffered processing at any subsystem; when buffered, one is closely examining an aspect of the image, akin to listening only to tubas within a full symphony. What one selectively attends to in the buffered state is what is then also copied and passed on through the system. Focal awareness, realised through this buffered processing, is this intentional inspection of the image at any subsystem (or its product at another's input array) to recover a more detailed representation. It comes with a micro time lag in the rate of processing (hence the 'buffering') and can only occur in one subsystem at a time due to the need to access the image from the memory record. However, we are capable of rapidly shifting our attention between subsystems or engaging in a more diffuse awareness (where less detail is present on the whole).[71]

ICS is a suitable cognitive model for examining dance, because of its multimodal nature and ability to trace physical meaning-making processes through non-verbal pathways. As noted in Chapter 2, Stevens, Malloch, and McKechnie (2001: 63) highlight that, 'Dance phenomena challenge existing cognitive theories that assume only propositional or verbal forms of imagery and knowledge in human creativity and memory;' ICS offers a cognitive theory which assumes non-verbal, implicational meaning as well as physical information as an essential contributor *to* that meaning. As Barnard reiterates, 'Dance, perhaps more than any other art

[71] Though a macro-model of cognition cannot be experimentally tested directly, as that would prove to be an intractable task, the temporal dynamics of this 'glance-look' theory (Su, Bowman and Barnard 2011), and the differences in processing speeds for direct and indirect processing (Walz and Rapee 2003) have been modeled.

form, relies on *diverse forms of imagery*; of the body, of movement, of sights, of sounds and of music,' all of which can be mapped through ICS (2013, emphasis mine).

My research proposes that somatic practices engage these multimodal images to reinforce cognitive connections between sensory perception and meaning-making processes, allowing for novelty in dancers' creative choreographic expression. I have acknowledged that dance training generally develops perceptual expertise; it increases individuals' bodily sense and ability to generate and shape movement in time and space. I am claiming, through the analysis of multiple perspectives and somatic practices in my (admittedly small) sample, that Somatics likewise deepens this refinement of sensory perception. I argue that somatic practices allow for awareness of subtle differences (and therefore an increase in movement options or affordances). Through this increase, more accurate or 'appropriate,' physical meaning representations may arise. As such, I am essentially arguing that somatic practices develop expertise—of sensing, of making, and generally within the domain of dance—and that this expertise is evidenced in their ability to generate creative choreography. But what is meant by *expertise*?

11.4.1 Creative Expertise in Dance and Somatics

The impact of expertise on creativity is a large debate in creativity research; whether creativity is domain-general (as most testing assumes, e.g. Plucker 1998) or domain-specific, and whether those views are mutually exclusive, is still hotly contested in the field. Kaufman and Beghetto's (2009) spectrum and

distinction between micro-C, little-c, professional-c, and Big-C creativity—covered in Chapter 9—asserts expertise is essential in developing creativity in any domain. Further, as a result of a large-scale research project into dance cognition, Stevens, Malloch, and McKechnie (2001) propose that expertise in dance means that dancers retain kinaesthetic memory and use physical processing that bypasses propositional verbal-coding cognition to generate movement—emphasizing not only domain-specific expertise, but also the importance of nonpropositional meaning in choreography, an aspect I will return to later.

Expertise in the ICS theory involves a number of things. Firstly, there is an assumption of experience (akin to theories which align expertise with time invested, e.g. Ericsson, Krampe, and Tesch-Römer 1993; Simon and Chase 1973) which equates to knowledge, as meaning space becomes populated through experience. And secondly, there is a pattern of thinking, or a proceduralization of information flow; expertise is a conjoint effort between a pattern of thinking and the knowledge, or content, on which it is based. As May and Barnard (2004: 316) note,

> An expert in a task may be able to directly derive a propositional meaning from a structural representation that a novice might need several interchanges of information between different subsystems to elaborate. This means that the availability of proceduralized knowledge here may allow shortcuts in the overall configuration of processes, different configurations being needed at different levels of task expertise.

Thus, the difference between a novice and an expert is not only in the content of their meaning space, but also in the cognitive pathways through which the information is processed. In dance, expertise is evidenced in intentional

behaviour, or movement, which in cognitive contexts is termed 'dynamic control.' As Barnard, Wilson, and Maclean (1988: 448) highlight,

> To generate and control overt behaviour, individual resources must act together in a co-ordinated way. The concept of dynamic control involves characterizing the passage of representations among subsystems. With simple, well-learned tasks dynamic control may be straightforward. With complex or novel tasks, many transactions among subsystems and their image records may be required to co-ordinate overt action. These transactions may include multiple access to image records and the creative combination of their contents.

So, expertise means a well-proceduralised flow of information, with less interchanges of information, or passes through the system, required to elaborate that information and coordinate action.

Furthermore, to return to the knowledge-base: as meaning space is populated, one is capable of making 'distinctions from that meaning space that enable you to see meanings that other people don't see,' notes Barnard (2016). He continues, stating, 'Most of us, particularly when it comes to contemporary choreography, have a very unspecified meaning space. So if it's not there, you can't see it' (2016). Expertise in dance, and indeed in Somatics, lies not only in the speed of processing (the shortcuts in the process), but also in the population of meaning space through experience, thus the ability to see meanings that others cannot. As Barnard stated, within the field of cognition, 'Everybody understands that people who get a technical vocabulary will be making distinctions that other people don't.' An analogous example would be if academic study increases one's verbal vocabulary, then a student of increasingly higher educational levels will increase the level of semantic distinctions, thereby increasing their working vocabulary; i.e., a university student will have a larger verbal knowledge base than a primary

school student. In a codified dance technique like ballet, this larger vocabulary might be evidenced in increasingly complex versions of a set 'step'—the ability to execute a *brisé volé* rather than an *assemblé*, for instance, or a quadruple *pirouette* rather than a simple *passé*—indicating a higher level of dynamic control of their movement within the constraints of the technique. In a relatively non-codified form like contemporary dance, where the generation of new movement is integral, a dancer who can conceive of and execute more movement patterns will be considered more expert than one who cannot—I argue this expertise is dependent upon a refined sensory perception that is trained in somatic practices. Therefore, Somatics for dancers can be a valuable route towards gaining more expertise in this area. And that ability, that expertise, will be captured in cognitive meaning space (Barnard 2016).

Within ICS, there is no difference in the output of non-verbal and verbal forms of meaning. The philosophical argument is the same: both represent expertise, but the meaning space is different. When one is an expert, one is processing more smoothly and capable of seeing possibilities in meaning space to which others aren't attuned (Barnard 2016). This perspective also has echoes within the data from Olsen, Tufnell, and Reeve. For example, Olsen notes the impact of expertise in training our metacognitive awareness of our perception on our range of choices, what Barnard might call the possibilities one can see. She states,

> As we recognise that perceptual habits have a great deal to do with how we interact with the world around us, we can engage our human perceptual system for maximum responsiveness and health. Perception is the basis for connection. The more refined our awareness of sensory input of an interpretation, the more choice we have about response. As we increase perceptual range, we can invite heightened connection to self, to the

> sensual pleasures, and to the landscape around the dialogue between body and earth. (Olsen 2002: 60)

Here, Olsen's 'perceptual habits' indicates the flow of information within the cognitive system, and the 'more refined awareness' and increased choice describe the ability to see possibilities within that meaning space. Furthermore, this process of seeing possibilities equates to guiding awareness, or an 'attentional score' (Anon. 2015, Barnard and deLahunta 2018, Barnard forthcoming). As Tufnell notes, 'somatic movement practitioners become very practiced at guiding their awareness toward sensory experience' (2017a: 109). That practiced attention to sensory experience results in a richly populated mental space around physical meaning, and as noted above, somatic practices may be one tool for developing dancers' expertise in awareness of sensory experience.

11.4.2 Somatics Information Flows

As noted earlier, Barnard's model has been used in previous research on dance cognition, particularly choreographic generation. Expert choreographers each have their own set of 'tools' with which to catalyse movement generation; in Somatics, as my research illustrates, these catalysts emerge through attending to the first-person, felt-sense of the body and the interaction of those sensory inputs with the meaning-making from personal experience and associations to which they give rise. Within the ICS model, these tools are essentially the interaction between the physical and three conceptual loops (Anon. 2015); Barnard notes that this interaction is 'highly generative' (2016).

The various ways information may travel through the ICS model is outlined above (Fig. 3, also Appendix 2). With each transposition from one subsystem to another, information becomes more schematic, retaining invariants but losing detail. For example, when describing a shape, I might identify it as a 'triangle' rather than a scalene triangle with angles of 110, 30, and 40 degrees, 'pointing' down, filled in with green and a pattern of yellow paisley. Each level of detail requires a further inspection of the image from the sensory input and buffering at the visio-spatial stage; the initial description of 'triangle' contains the invariant properties of a three-pointed, three-sided shape. 'Triangle' indicates a propositional image, but there exists ineffable equivalents of that level of specificity or invariants within implicational meaning as well. The same is true for other forms of information, including physical information: each level of processing discards some level of detail, some fidelity, yet there is much latent meaning which could potentially be extracted and passed on through the system for further processing, and, in the case of dance choreography, communicating to others.

Physical information in particular has no direct route from the second-order (derived from awareness of sensory input) to the 'deep meaning' propositional subsystem (so only fourth-order invariants are retained; e.g. those 'central' in Figure 1, p. 53). Physical information must first flow through the implicational subsystem, to which there is a direct route. In the current model, when one is construing movement imagery, one is buffered at the implicational level, or between the implicational and body-state systems. However, as noted in Chapter 9, there are differences in how choreography takes form. In the previous

research considering dance from an ICS perspective, tasking (or assigning "'choreographic problems" for the dancers to solve or choreographic "tasks" for the dancers to complete' [Kirsh et al 2009: 191]) has been the prominent approach to choreography (deLahunta, Barnard, and McGregor 2009; deLahunta, Clarke, and Barnard 2012; Kirsh et al. 2009; McGregor 2002; May et al. 2011). Tasking necessarily includes a transposition through the propositional loop, because it is named and directives are given through verbal (or potentially written) instructions prior to movement generation. The verbal task is the problem that needs solving physically—see below (Fig. 5) for a proposed information flow of choreographic tasking. In this image, note the flow may initially start in the propositional subsystem once an impetus is defined (after the system 'receives' the aural or visual task through the acoustic-morphonolexic or visual-spatialpraxic systems). Then, the propositional image will blend with information from the body in the implicational subsystem before being realised through the effector system in physicalized movement.

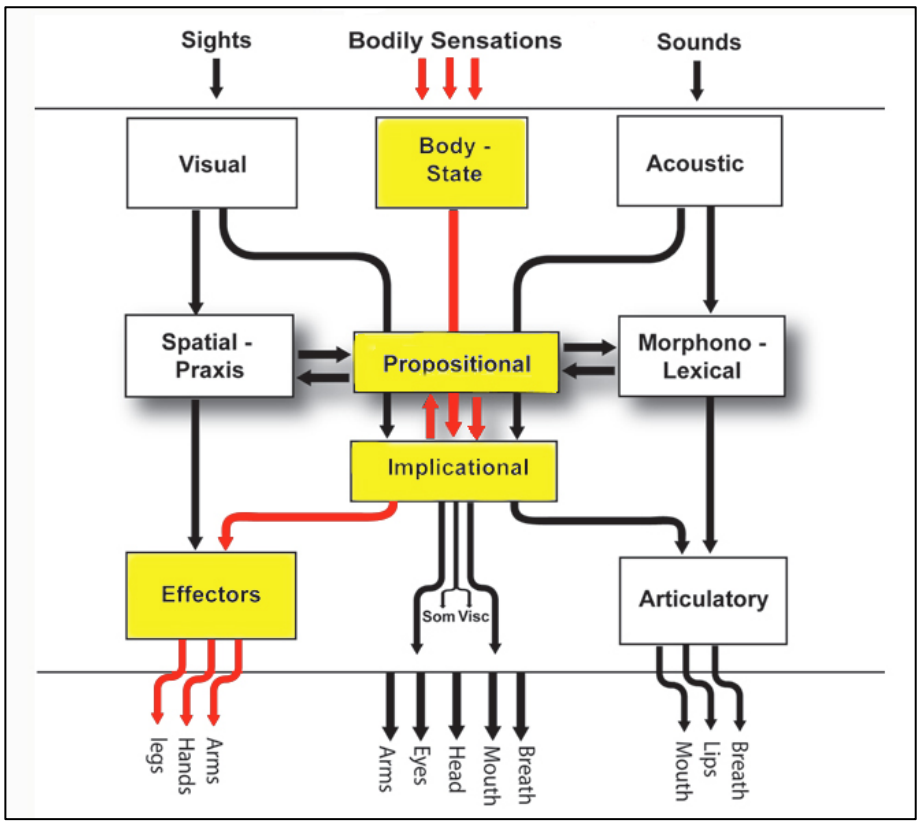

Figure 5: Proposed Flow of Information for Choreographic Tasking
This depiction models a general flow of information after a directive has been given.
Note: depending on the image used for a task, spatial-praxis or morphono-lexical subsystems may also be involved.

However, as noted previously, the form generated—and movement created—within Somatics-based choreographic practice arise from a felt sense of embodiment, the moving body itself—no emphasis on fulfilling verbal tasks to produce movement is necessarily given.[72] The form is emergent, following physical sensation. I propose then, that the cognitive flow of information in Somatics-based choreographic practices largely bypasses the propositional

[72] Sometimes, a focus for a movement task is given in Somatics contexts, yet the power to choose to follow that focus lies with the movers or participants in a somatic practice environment. In my experience, the focus is generally vague or open-ended, allowing movers to follow their own sensation/interest, always within a frame of a felt sense of embodiment, rather than repeatedly returning to the 'task' at hand, to create a product or set movement phrase. In my view, this differentiates it from improvisational generation for tasking-directed choreography (see: May et al. 2011, McGregor 2012). It is another way of encouraging autonomy within the Somatics pedagogical context. (Though the movement generated from this autonomous, open-ended focus may later be recalled and set, its generative phase is not often product-oriented.)

subsystem and occurs primarily through a loop of implicational, effector, and body-state subsystems, as highlighted in Figure 6 below.[73] As noted in Chapter 6, somatic practices also train multimodal senses, so the auditory [or even visual] input may come into play sometimes, but the primary focus being on *felt* sensation is indicated in this proposed flow pattern. Thus, this depiction is not an exact description of the processing flow, or predictive 'attentional score'—such a description would be intractably complex—but a simplified audit trace of a theoretical information flow, which serves to illustrate the typical, fundamental flow of information in these contexts.

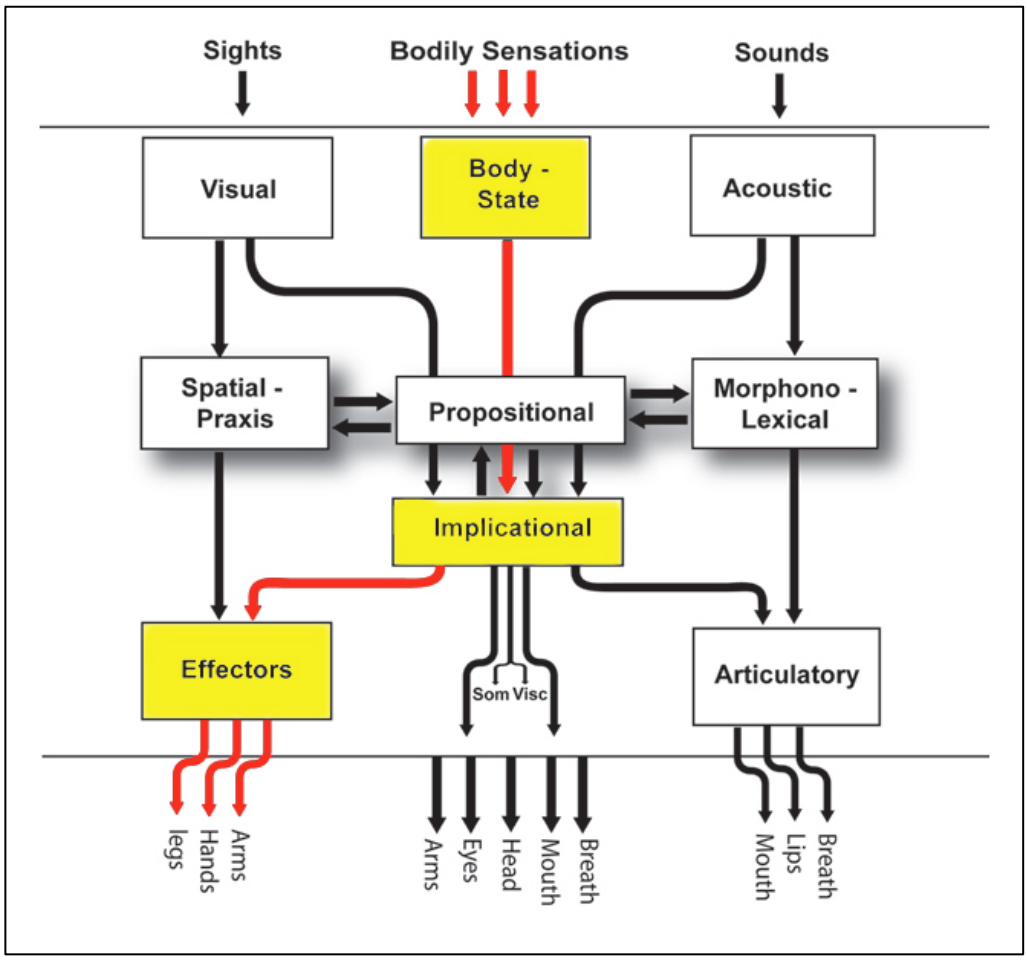

Figure 6: Proposed Flow of Information in Somatics-based Choreography

[73] Note: the image includes an arrow from the body-state to the implicational subsystem which passes *behind*, not through, the propositional system.

Or, if we were to again excerpt the three internal subsystem loops and add the relevant input/output subsystems involved in my proposal, it might look like this (Figure 7):

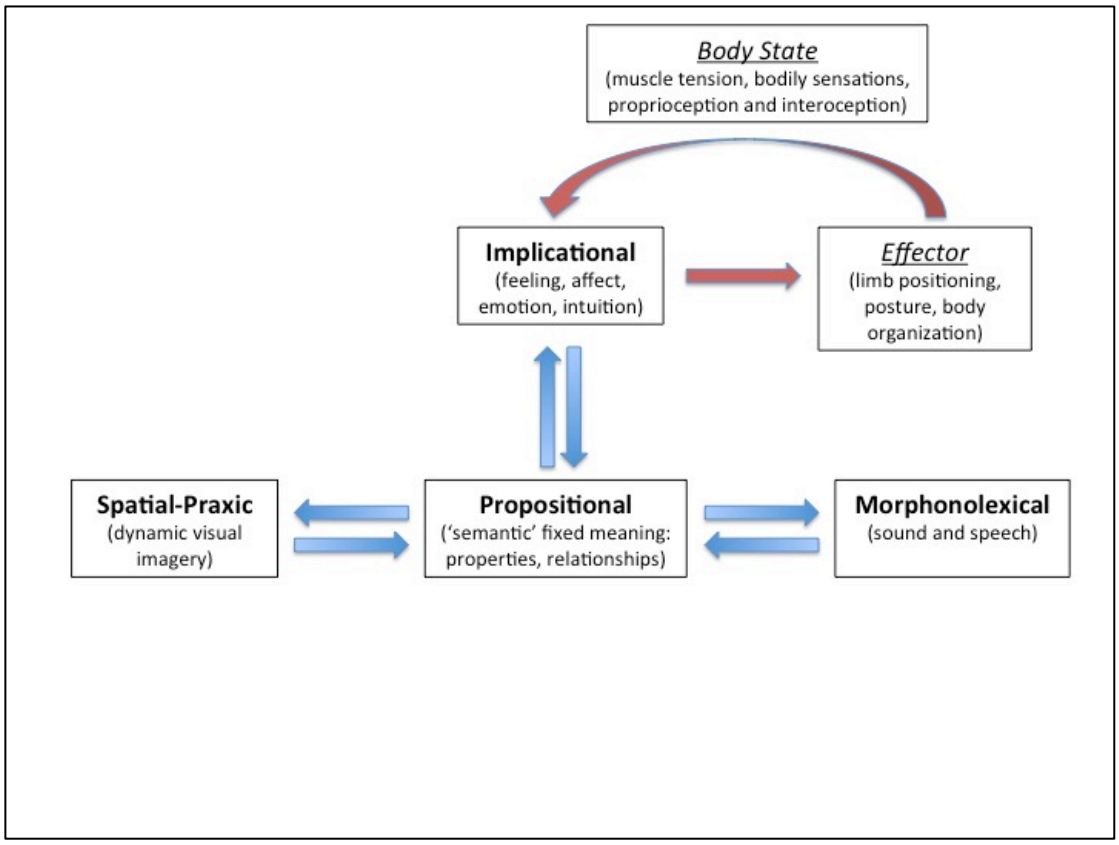

Figure 7: A Simplified Illustration of the Flow of Information in Somatics-based Choreography, Illustrating the Bypassing of the Propositional Subsystem. Red arrows highlight active flow of information. Bolded titles indicate the four internal meaning subsystems.

This is a highly-simplified version of the cognition which happens, to illustrate the most-used and most integral processing pathways. Here, the flow of information is represented by the red arrows, and you can clearly see that my proposal, in accordance with the forms of meaning found in my data, omits the propositional loop which is involved in the tasking from previous creative choreography research. In actuality, as somatic practitioners will spend most of their time buffered at the implicational subsystem, they will keep a diffuse

awareness of the whole, akin to the 'glance-look' model (Su, Bowman and Barnard 2011), where one's focus of attention only 'glances' at other systems (like propositional); but such awareness is only in passing, and focus of attention is, essentially, never 'housed' there.

As noted in the caption Figure 5, within tasking-based choreography, the morphonolexical or spatial-praxic subsystems might have been involved in problem-solving an instruction—for instance, if a task was given to embody the sound of a bell ringing, or to describe the shape of a bell in space (actual tasks from deLahunta, Clarke, and Barnard 2012). Here, a choreographic practice necessarily involves the propositional, then subsequently engages the morphonolexical or spatial-praxic subsystem. Though the spatial-praxic is concerned with (mental) motion due to its assumed evolution from a more basic mental architecture corresponding to the usage of tools (Barnard et al. 2007), it is the subsystem involved with seeing things 'in the mind's eye' (Barnard 2013). Therefore, if a dancer was to imagine a moving body in this system, it is necessarily treated as an object, not the subject of perception. May et al. (2011) showed that dancers using tasking could identify whether they were modelling this external, spatial-praxic perspective, or the internal, implicational one. Their research (2011: 419) also showed that these 'dancers' awareness was focused more than they anticipated upon conceptual than physical or bodily aspects.'

Unlike these tasking-based flows, somatic practices avoid housing attention within a propositional subsystem. Further, the first-person perception integral to somatic practices emphasizes cognitive modelling of the body within an

implicational subsystem (and outputs into effectors) rather than from the spatial-praxic's external perspective. One might suppose that through their expertise in sensing and the reinforcement of those attentional patterns, if additional studies were undertaken with a focus on dancers who are also somatic practitioners, significantly different results might be obtained than from the May et al. (2011) research.

In summary, I suggest that a typical information flow within a Somatics context might go from the body-state, into the implicational, and out into the limbs and body through the effector subsystem. I proposed this flow to Barnard in a conversation in 2015, questioning whether there was a direct connection between implicational and body-state, or articulatory or effector, subsystems (Barnard 2016). It should be noted here that the ICS model has been updated from the original 1985 version; for instance, body state was missing from that original model but is present in a 1991 paper (Barnard and Teasdale 1991); likewise, a 2007 paper (Barnard et al. 2007: 1159) notes an update in the naming of effector and spatial-praxic subsystems, which were previously termed limb and object, respectively.[74] So, the system is evolving with more accurate understandings of cognition. When I posed this loop as another evolution to him, Barnard's initial response was that there exist evolutionary old routes which are assumed to be present in the current system, however when discussing those pathways it was clear that they were reflexive, not intentional, movement—like removing a hand from a too-hot surface.

[74] These updates can be observed by comparing two depictions of the ICS architecture, presented in Appendix 2.

However, I proposed then, as I do now, that this is not the case in somatic movement contexts: our somatic practice, the finding form in in-the-moment-movement derived from first-person perception of sensation is an intentional, not reflexive act, though I argue that the intention is driven by this implicational meaning. Thus, I claim that, when creating physical meaning, somatic practice largely 'inhabits' implicational space; we refine sensory perception both by more richly populating body-state and implicational meaning space, *and* through repeatedly reinforcing the body-state to implicational to effector 'loop' as a default cognitive processing pathway. Meaning is thus made from practices of embodiment through this loop. From this meaning, we can create an elaborative representation, using the implicational to propositional loop to extract features from this physical information for evaluation (including of novelty) and use in a communicative (including choreographic) form. As Barnard (2016) claimed, 'The propositions are latent in the implicational state. What is latent is difficult to get out, but we try by creating propositional extractions.' The form-finding (setting movement, or creating the environment or score for one to explore the implicational loop and be observed by an audience) then, is the propositional aspect, one which allows for choreographers who draw on somatic principles in their work to generally operate in the implicational loop but present that meaning in a relational way.

As noted previously, my experience of Somatics includes observing my movement and subsequently inspecting it to derive meaning that can be articulated. In this flow then, the feedback from my moving body is information

that is then looped again into the system through buffering in body state and into the implicational subsystem. From here, that meaning may be transposed into the propositional subsystem for me to 'make sense' of it, and further to translate into spoken or written words through a transposition into morphonolexical or articulatory subsystems with the products of the propositional processing. In this way, it is easy—if not simple—to outline an audit trace of the cognitive processes involved in somatic practices, from the refined sensory perception allowing for a richly populated meaning space to the well-proceduralised pathways from physical information to implicational meaning and back. I argue this processing carries implications, when related to the themes in my analysis, for creativity in choreographic practice.

Furthermore, the type of expertise generated through somatic practices, as innately tied to sensorial experience rather than an external, objectifying perspective, is itself a form of meaning. In the current model, this meaning is captured in the implicational subsystem, yet as the model evolves to more accurately reflect advanced human cognition, a new subsystem may be implied. The meaning that somatic practices generates may indeed be its own form of 'coding' of information, eventually demanding its own subsystem, though this is not yet a part of Barnard's theory.[75] Regardless of whether a new subsystem is eventually espoused, this thesis offers a reflection of shared thinking and

[75] Indeed, though I lack the mathematical acumen to develop it, I am currently in the process of debating such an addition to the ICS model with Barnard. He is hesitant to add another subsystem because of the added complexity an addition would engender, and also argues that the model mathematically requires sensorial correlates which are yet discrete (as he views auditory or visual to be). I posited to him that perhaps various forms of physical sensory information (e.g. proprioception versus interroception or kinanesthesia) might provide this. My proposal, in its infancy, is still being considered by Barnard.

experience from somatic practices that challenges and further defines the systemic processing in Interacting Cognitive Subsystems, while the ICS model provides a tool for artists grounding their practice in Somatics to evidence their expertise and meaning-making processes—a particularly valuable asset when the meaning made *is* largely nonpropositional, as evidenced in my earlier analysis. In the next chapter, I will consider what some of the further implications of my cognitive processing proposal may be and suggest some future directions for research that stems from this proposal.

CHAPTER 12. FURTHER IMPLICATIONS

12.1 Introduction

The focus of this research was on discovering common thinking within the Somatics community about creativity in choreographic practice and subsequently whether these common perspectives align with cognitive theories of creativity. From my analysis of Reeve, Olsen, and Tufnell's perspectives, and relating those findings to the ICS framework, I have proposed a theoretical cognitive processing which maps how nonpropositional meaning is made from sensation, and how thinking patterns are trained, creating expertise in somatic practices. This processing impacts creativity through its broadening of choreographic choices, equating to greater variation in a BVSR model,[76] the generative phase in a geneplore model, or divergent thinking in a range of models.

To those who already draw on somatic practices for artistic work, perhaps these findings simply offer a confirmation, or articulation, of their experience, as it mostly has for me. If so, then my aims to understand commonalities in perceptions of creativity in Somatics contexts will have been met. Though I arrived at a theory of how information from our sensory perception may be processed cognitively to make meaning and create dances, this proposal, however, also brings up some further-reaching considerations. These present as implications both within my proposal and for future research, which this chapter will sketch.

[76] Recall that this acronym stands for 'Blind Variation and Selective Retention,' an evolutionary model of creativity.

12.2 Implications

Implications from my theory include: a conceptualisation of how language operates in Somatics contexts, an argument for ICS to be considered an embodied cognition model, and a case that somatic practices offer a form of mindfulness, facilitating changes in what and how the mind is processing. To label these as implications is to point to the fact that they are aspects for which some evidence exists within my thesis, but which have not been fully fleshed out yet, and thus necessarily require some further research. However, I will make a preliminary case for these perspectives here.

12.2.1 Language

The difficulty of selecting movement to reflect the emergent meaning from somatic practices, as noted in Chapter 11, is that meaning loses imagal fidelity each time it is transposed. This is why, in somatic practices, we often report a difficulty of matching words to our embodied experiences; as Batson and Wilson report, attending to 'emergent sensory data […] gives rise to a wealth of vague sensations. These are preverbal, prenoetic sensations […] The body infers more than can be construed through verbal concepts or distinctions,' offering 'experience evaded by everyday language' (2014: 132). In ICS, propositional information is fixed, and easily represented in words; implicational information is not—it is slippery, metaphorical, abstract, and associative. Indeed, 'Patterns of implicational code represent a more generic, holistic level of meaning. Meaning

at this level is difficult to convey adequately because it does not map directly onto language' (Teasdale 1993: 345). It is one reason why, as my analysis illustrates, when attempting to capture or report the body-based meaning arising in somatic movement, verbal attempts more often take poetic than prose form. Helpful though it can be to try to articulate embodied experience, Olsen also notes that this process of 'fixing' embodied meaning by transposing it into verbal form limits its associative properties—again reiterating the loss of fidelity with transposition identified in the ICS model. She claims, 'Naming can remove you from connection to the flow of sensory information and can also illuminate experience. As you make meaning, describe, symbolize, and represent, you can choose whether to continue referencing the broader field of sensations or to narrow possibilities' (2014: 131).

However, as deLahunta (2015) claims, artists have developed techniques for accessing the inarticulate and pre-verbal, interrupting typical language-use and engaging in plurisemic meaning and logic. One technique—at least in dance—is to, through somatic practices, reinforce the processing flow from implicational meaning into effector, or physical representations through the moving body as I have outlined in Chapter 11. By bypassing the propositional subsystem, somatic practices retain pre-verbal, prenoetic detail. Whether the meaning from somatic movement is represented in choreographic or harvested in poetic form, retaining this fidelity is the goal, and the hallmark, of expertise. Transposing in this way could help dancers to arrive at what deLahunta (2015) terms an 'embodied language' that avoids the fixation of words'

meaning, recodes them from typical use into one which more accurately reflects this wholeness, and thus supports creative efforts generally. DeLahunta claims that artists engage in this language recoding; my argument that somatic practices may reinforce the mental patterning that facilitates a higher-fidelity transposition of physical information implies that Somatics may be one avenue for enhancing dance artists' ability to call forth embodied language. Researching the impact of Somatics on contemporary dance students, Warwick Long (2002: 129) calls for an 'investigation of how dancers use written or verbal language to convey approximations of their sensations and experiences in movement.' Perhaps situating such an investigation within the ICS framework, with an understanding of the cognitive mechanisms supporting this recoding, can help to reinforce the techniques, like somatic practices, which mitigate premature fixation and narrowing of meanings, allowing dancers to better approximate their sensing-moving experience in words.

12.2.2 Mindfulness

Langer (1989) claims that creativity flourishes through mindfulness because mindfulness practices allow us to take control of our perceptual processes—similarly to how somatic practices contribute to refined sensory perception, as my research argues. Mindfulness, therefore, is an area my research benefits from and which may have a wider impact on future avenues for this theory. As Batson (2009a: 2) once claimed, 'A somatic learning environment often begins by quieting the mind-body "chatter" in order to focus attention on the body's sensory stimuli.' This ability to fine-tune our attention on sensation, this quieting

of 'chatter,' is an embodied practice of mindfulness. Indeed, some Somatics researchers claim somatic practice includes mindfulness (Adams et al. 2012, Caldwell et al. 2010, Caldwell et al. 2013: 25, Nettl-Fiol and Vanier 2011). One implication, which should be elucidated further in future research, from my claims is that, through repatterning cognitive flows, Somatics is therefore facilitating mindfulness, or forming embodied mindfulness. Previous research has posited that mindful meditation can influence dance practice, and even presents 'meditation as, or meeting, somatic practice,' (Whatley and Lefebvre Sell 2014: 441), however, none as yet has presented a cognitive perspective on somatic practice as mindfulness.

Interestingly, the ICS model has also been used to describe mindfulness (Teasdale 1999, Teasdale and Chaskalson 2011a, Teasdale and Chaskalson 2011b). Teasdale and Chaskalson claim, 'Mindfulness transforms suffering through changes in what the mind is processing, changes in how the mind is processing it, and changes in the view of what is being processed,' and argue the ICS model can illustrate—and be used to implement—these changes (Teasdale and Chaskalson 2011a: 103). The argument builds upon Barnard's explication of the evolution of the system from a simple four-subsystem model in animals through increasing complexity as hominid lines evolved to the nine-subsystem model proposed for humans today (Barnard et al. 2007; Barnard 2010; Barnard, Davidson, and Byrne 2016). In essence, Teasdale and Chaskalson argue by simply changing our mental patterns thorough mindfulness practice (2011a), we avoid typical reliance on propositional thinking; in doing so, processing is buffered at the implicational level, akin to the un-sub-divided multimodal

processing of an animal (Barnard et al. 2007; Barnard 2010; Barnard, Davidson, and Byrne 2016).

This re-patterning parallels my proposed cognitive flow of how somatic practices facilitate creativity, as my theory, like Teasdale and Chaskalson's, claims that habitual thinking patterns are being shifted into buffering at the implicational subsystem. Both practices, therefore, present attention-honing techniques which may be related. Further, there are also similarities in mindfulness practice to themes arising from my research—including a progression toward wellbeing as a use of the practice, the essential component of non-judgment, and a focus on emergent 'experience as it arises in each moment' (Teasdale and Chaskalson 2011b, 2011a: 105). Thus, one implication from my research is that there are characteristic traits and properties of cognitive flow shared between mindfulness *and* Somatics, suggesting that there is a strong connection between the two practices that should be explored further.

12.2.3 ICS and Embodied Cognition

Throughout this thesis, I have referenced both the ICS model and theories of embodied cognition as they relate to, and underpin, my findings. Though many might view a representational, information-processing model like ICS as fundamentally in opposition to embodied cognitive theories, I would like to present what may be a radical argument here for their mutual-inclusiveness and will do so by touching upon three researchers whose work sits at the intersection of embodied cognition and dance.

Dance educational psychology researcher Matthew Henley (2014) notes that in cognitive science, information is modal or amodal—which he equates to bodily or abstract, respectively represented in the mode of the sensory receptors or in deeper processes, akin to the difference between the peripheral and central subsystems in the full ICS model depictions (see Appendix 2). He notes that even if such sensory information 'doesn't reach the level of abstract representation it can still be processed for goal-oriented decision-making, and [is] thus reflective of intelligence,' echoing how expertise is modelled above (Henley 2014: 5). Henley's main assertion is to argue for the importance of modal, bodily knowledge as valued. As such, I would argue he is presenting an argument in favour of embodied cognition. He argues that a dancer linking movement with emotion is linking proprioceptive schema to multiple pathways of achieving a goal, which can be simulated and evaluated. In my audit trace, I highlight these pathways to link sensory information with the implicational subsystem and action in the world and note that the 'multiple pathways' is a possibility in dance creation. Indeed it is one which was evidenced in previous research with dancers (May et al. 2011), and metacognitive awareness of these multiple pathways is currently being evaluated as a tool for enhancing creativity in dance students (Anon. 2015). Likewise, Henley claims it is possible 'to foster this kind of [divergent] thinking in the dance classroom by offering contrasting experiences and explicitly indicating to the dancers the moments in which they are making choices' (2014: 9).

Secondly, though she does not use the cognitive subsystem terminology, Maxine Sheets-Johnstone emphasizes the interrelation between implicational (affective) meaning and the sensory (body-state) input we receive from movement. She writes of the 'unfolding qualitative kinetic dynamic [that] coincides formally with emotions, with feelings in an affective sense: thus the dynamic congruency of emotion and movement in addition to the semantic congruency of meaning and movement' are linked (2011: 462). She further elaborates this congruency, stating, 'Not only a slip of the hammer but a slip of the tongue discloses an unfamiliar dynamic, a lapse in an everyday synergy of meaningful movement, in this instance, a lapse of semantic congruency' (Sheets-Johnstone 2011: 464). There is a parallel within the ICS literature. For May and Barnard, (May 2004), rightness (as used in informational processing), or what 'feels right' is when implicational representation is positive because our planned behavioural output and our inferences from representational, propositional input are consistent.

Likewise, though embodied cognition philosopher Shaun Gallagher (2014: 10) refutes representational theories of cognition, he claims that that movement correlates with, or informs, perception, and distinguishes between the body-as-object and the subjective body—which he claims 'moves in action, where most of the experiencing is pre-reflective.' Gallagher (2017) references dancers' expertise in offloading bodily schema tasks (like posture or movement) to the body from their focused attention and argues for expertise in dance as the ability to flexibly alternate between such off-loading and focused attention on those physical elements. In this argument, he tightly couples affect with bodily schema and expertise, a step which I would argue reflects my proposed processing flow

from body-state to implicational to effector as the path to developing expertise. Gallagher also acknowledges that 'even if many of the effects of bodily processes on cognition happen on the subpersonal or neuronal level, phenomenology can still be relevant to working out a causal explanation,' (2014: 13)—i.e. the subject's experience (of remembering, imagining, problem-solving, etc.) provides the basis for the study of cognitive phenomenon, as in this thesis. Lastly, he notes the importance of such 'non-conscious' affective factors and bodily input in modulating perception, action, and attention (2014: 12). He claims, 'Any account of embodied (or enactive) cognition that focuses exclusively on sensory motor components of perception or action, and ignores the realm of affect, provides an incomplete story' (2014:15), arguing that bodily affect may not reach phenomenal consciousness (or, in my interpretation, propositional awareness) and yet still effect experience, perception, and meaning-making.

For Gallagher, his main argument is that 'affect is deeply embodied' (2014: 16). Sheets-Johnstone claims that 'movement is the generative source of our primal sense of aliveness and of our primal capacity for sense-making' (1999: 132). And, while Gallagher and Sheets-Johnstone might not situate their arguments within a representational model like ICS, I propose these ideologies are not as diametrically opposed as their respective champions might lead one to believe. For instance, Sheets-Johnstone (2011) dismisses the term 'embodied cognition' as a tautology. I suggest that this semantic redundancy is necessary to distinguish this ideology from previous dominant ideologies in cognitive science, in which cognition was viewed as separate from, and superior to, the body (see

Chapter 2).[77] Furthermore, Sheets-Johnstone (2015: preface, 2014, 2011, 1999, 1981) reaches beyond embodied cognition's historical precedent (i.e. focusing research on perception alone) in order to situate thinking in animative dynamics. At the same time, her overarching philosophy that, 'Mind is indeed a function of body' (2011: 464) reflects prominent ideas in embodied cognition. Though perhaps most embodied cognition scholars would not recognize its 'box model' look, like Gallagher's emphasis on including affect in cognitive processing, Henley's insistence that dance is a laboratory for manifesting embodied knowledge, or Sheets-Johnstone's argument of the centrality of movement to our thinking, 'ICS places great emphasis on the "whole system" including a central role for embodiment and emotion' (deLahunta, Clarke, and Barnard 2012: 246).

Meaning space is populated through experience in ICS. This means that, from birth, the way we make sense of the world in ICS *is* through embodiment. Though we are later able to conjure up information from the four internal loops, initially *no* deeper meaning is created without a prior grounding in the sensory input arrays. And furthermore, because those input arrays are constantly blended in with the information arising from the internal loops, no cognitive processing exists separate from bodily information even in adult cognition. Or, as Barnard noted in our discussion (2016), 'The trajectory of physical experience is part and parcel of what is modelled in implicational space, and it cannot be divorced from that.' This quite clearly aligns with embodied cognition theories; as Robbins and Aydede (2012: 4) reflect when covering the broad range of situated cognition

[77] Additionally, Sheets-Johnstone's focus on the semantics of 'lexical bandaids' is at odds with her own request that readers look beyond the words in a developing theory towards their deeper and intended meaning (Sheets-Johnstone, 2015: preface).

models, 'Without the cooperation of the body, there can be no sensory inputs from the environment and no motor outputs from the agent—hence, no sensing or acting. And without sensing and acting to ground it, thought is empty.'

This is not to say that the alignment is a perfect or facile one. Indeed, as I mentioned above, scholars like Sheets-Johnstone and Gallagher would probably offer more resistance to my argument than did Barnard, not in the least because of the inherent competition in research (funding allocation and prestige) to be gained in being the 'right' model (Chemero 2009, Shapiro 2011), but also because of fundamental differences which reflect larger arguments in the still-developing embodied cognition field—such as whether representations are modal or amodal; whether embodiment is constituent or causal to cognition; and, indeed, whether cognition is representational at all (Chemero 2009). To allay these arguments fully through ICS is beyond the scope of this thesis, and indeed would be intractable at this time. However, Thelen et al argue that

> To say that cognition is embodied means that it arises from bodily interactions with the world. From this point of view, cognition depends on the kinds of experiences that come from having a body with particular perceptual and motor capabilities that are inseparably linked and that together form the matrix within which reasoning, memory, emotion, language, and all other aspects of mental life are meshed. (2001: 1)

And, though Thelen et al claim their stance opposes representational theories, if this is the definition, ICS does indeed meet the standard, offering a 'matrix' of interacting subsystems in which information arising from (and the constraints of) sensory perceptual systems is inextricably linked to all levels of cognitive processing.

Finally, the intimate interaction between the deep-schema implicational system and physical embodiment as both an input and output of cognition creates a circuit of meaning-making which, though it does rely on information processing, parallels Gibsonian perspectives. As Reeve's data highlights, a Gibsonian 'affordance is equally a fact of the environment and a fact of behaviour. It is both physical and psychical, yet neither. An affordance points both ways, to the environment and to the observer' (Gibson 1979: 129, Reeve 2008: 78). As Batson and Wilson (2014: 76) note, 'Dance thus affords a sense of immediacy between thought and action' in which arises a tight coupling of sensing-thinking-moving-and-acting, that—though the 'thinking' may be nonverbal and implicational in nature—I have patterned in my proposal above. This tight coupling leads to a level of expertise in Somatics practitioners, a thinking pattern and ability to sense finer detail (and thus more meaning) from embodied information. For instance, contact improvisation and Somatics pioneer Steve Paxton appears to agree, stating that by training his perception, he can bypass his conscious perception and follow the body's cognition, and therefore see more choices for movement potential (Paxton and Steijn 1999). And this sense of embodiment as a form of knowledge, a path to meaning-making (and thus key in cognition), permeated the data from my Somatics-expert choreographers. Though it may not appear to be at first glance, my analysis and subsequent audit trace of the ways dancers engaging in somatic practices make meaning through the ICS model proves that it is, ultimately, an embodied cognition model capable of evidencing the embodied meaning-making and expertise-building Somatics contributes to dance. For, as embodied cognition expert Lawrence Shaprio (2011: 61) claims, 'Cognition is embodied insofar as it emerges not from an intricately unfolding

cognitive program, but from a dynamic dance in which body, perception, and world guide each other's steps.' Furthermore, as Somatics and dance scholars Batson and Wilson (2014: 57) reflect, 'Dancemaking is an inquiry of the body and mind in motion'—and a model like ICS allows the body and mind to co-create meaning, and indeed, a whole range of cognition—and for us to trace the ways in which we achieve these negotiations through practices like Somatics.

12.3 Future Directions

12.3.1 Choreographic Selection

Choice is particularly important in choreographic practice; as noted in Chapter 2, selecting the most appropriate (or useful) choice from the range of options is integral to creativity. This can be modelled as the 'selective retention' aspect of a Blind Variation and Selective Retention (BVSR) model, or the 'explore' part of the geneplore model. Though my research is primarily concerned with novelty, because of the issues I have raised with determining 'usefulness' in dance and Somatics, I believe this selection process is an area which requires further exploration. In Chapter 9 of my analysis, usefulness was geared toward wellness and creation, so this choice-making would occur in the creation, the form-finding. As noted previously, identifying usefulness may be more difficult in the arts than other areas where a product either works, or does not. As Runco (2007: 17) claims, 'In the arts, problem finding may be problem expression. Here the problem is not extrinsic, but more a matter of finding a way to capture a feeling or need;' here, Runco links choice-making (or choreographic selection in dance) to the implicational meaning system—capturing abstract concepts like feelings

or needs. Hagendoorn also asserts choice and perception are linked, as in my proposed processing flow, claiming, 'Every work of art is the product of a series of choices. In making these choices, artists are implicitly guided by the neural mechanisms associated with perception, attention, and emotion' (2005: 146). Hagendoorn claims that choreography is a dynamic process of evaluating and arranging compositions, and the process is supported by 'analysing perceptual and emotional stimuli' (2005: 139). Therefore, the selection process has connections with my model, centred as it is on refined sensory perception. Furthermore, this analysis of perceptual and emotional stimuli is innately one of meaning, of whether the transposition of propositional and implicational data into physical information is accurate. As Tufnell (2017a: 153) claims, 'Every image carries a meaning that communicates to body and soul and speaks to what matters to a person.' Or, as Reeve notes, 'creative movement choices, emerging from a somatic, kinaesthetic process may gradually reveal a relevant meaning to their creator,' one which is refined through this choice-making process (2008: 180). Thus, though my research is, in line with previous research on dance creativity (May et al. 2011), focused on the development of novelty over the selection of useful movement material, this latter selection process warrants further research and could potentially be mapped through the ICS model as well.

12.3.2 Pedagogy

Many writers have covered the pedagogical implications of somatic practices. For example, Martha Eddy discusses teaching dance somatically (Eddy 1992, Eddy 1995, Eddy 2002a, Eddy 2002b), while Glenna Batson has discussed how

the incorporation of Somatics principles into dance training can improve dancers' technique and wellness (Batson and Schwartz 2007; Batson 1990; Batson 1993a; Batson 1993b; Batson, Quin, and Wilson 2012). Sylvie Fortin looked at how dancers with broad experience in Somatics influence dance educational content and pedagogy (Fortin and Siedentop 1995, Fortin 1998, Fortin 1993, Fortin 1995), and Jill Green has researched the effect of Somatics pedagogy on students' body image (1999) and the emancipatory nature of Somatics pedagogy in regards to resisting socio-cultural and political oppression (Green 1996a, Green 2002a, Green 2013). Still others have discussed Somatics as an alternative to more traditional dance training (Dyer 2009; Enghauser 2007; Fortin, Long, and Lord 2002; Long 2002).

According to such previous research, Somatics offers the tool of 'applied experiential knowledge [which] enhances performance, technical training, and teaching methodologies' (Eddy 2009: 21). Myers claims that somatic practices develop 'sensory and perceptual motor skills' (1984: 164) to alter habitual neuromuscular patterning, and that Somatics can 'help to integrate musculoskeletal training with performance quality and expressivity' (1984: 165). Other research suggests that dance students with somatic training improve technical proficiency, move in healthier and more efficient ways, become expressive and more present, and experience fewer injuries, reduced stress, and a greater sense of mental well-being (for examples, see: Batson 1990, Batson 2009a, Batson and Schwartz 2007, Fortin and Siedentop 1995: 6, Williamson 2009). According to Brodie and Lobel (2004), somatic techniques enhance a

sense of embodiment, which in turn leads to creative and expressive performers and choreographers.

Clearly, the literature reinforces some of the themes from my analysis, and further suggests there are many benefits to including somatic practices in dance training, including creativity. The question remains, particularly when looking at the cognitive implications, precisely *how* are such benefits realized? Nickerson argues that researchers should look for ways to heighten creativity, as 'the evidence, though somewhat tenuous, suggests that creativity can be enhanced; [...but] *how* to enhance creativity is not well understood' (1999: 392). My research provides a proposal on how Somatics may be enhancing creativity, namely through a refined sensory perception, or as Myers might say, students training in somatic practices learn 'to recognize and respond to increasingly microlevel proprioceptive feedback, gradually improving sensorimotor programming' (1984: 165). As such, it may support or extend some of the established claims about Somatics pedagogy.

In Chapter 11, I offer a model for the cognitive flow of information, in which this sensory perception is key, that may facilitate creativity in somatic practices. I claim that by repeatedly engaging the body-state to implicational loop, those who study Somatics re-wire their thinking patterns, and spend more time buffered at the implicational subsystem—creating a richly populated meaning space of physical sensation (thus allowing for a refined differentiation and multiplicity of options for output of that information) and giving them access to the multimodal sensory input and its associated affective meaning. One area for

future study might be to conduct similar cognitive audit traces on other, similarly-claimed benefits of Somatics: can the ICS framework offer explanations for these, as well?

Furthermore, my research offers some pedagogical implications. Firstly, my research uncovered specific pedagogical elements which contribute to refined sensory perception, and thus, I argue, creativity. If dance educators wish to enhance their students' creativity, then an intentional implementation of these themes would be advised: to giving adequate time; to attending to connections to self, other, and the environment; to directing attention to both inner and outer in balance; and to developing a sense of individual agency, autonomy, and choice. One pedagogical element—cultivating non-judgment, a sub-theme of creating a safe environment—is echoed in creativity research; as Runco (2007: 45) claims, 'there is evidence that many of us are the most creative when we are in environments that are safe, nonevaluative, and non-judgmental.'

Educators can implement these themes in many ways. For instance, traditional dance education models may over-emphasize the external, objective perspective rather than balancing that with felt sensation; several studies have already critiqued the use of mirrors as prioritizing purely visual over kinaesthetic information as a source of motor learning (Dearborn et al. 2006; Dearborn and Ross 2006; Ehrenberg 2010; Radell, Adame, and Cole 2002). Somatic practices may balance this with its focus on the internal, felt sensation; incorporating these might mean lessening practice time with mirrors, either in rooms without mirrors or by covering them during somatically-focused work.

Furthermore, somatic practices' emphasis on process over product (Brodie and Lobel 2004: 80) allows for a greater sense of self-authority and agency, elements noted above as central to creative choice-making in choreography. As Batson and Schwartz (2007: 48) claim,

> The primacy of sensory awareness (sensing) over physical practice (doing) is not just for itself, but is a key to promoting embodied self-organization (internal authority). Internal authority is the determination of agency from internal physiological cues and conscious kinaesthetic awareness of the self in action.

Likewise, Hanna (1970) asserted movement originating from a somatic, subjective standpoint is particularly empowering for the individual. Thus, somatic practices implicitly include, through their inherent valuation of subjective perspectives, an emphasis on individual authority. Educators who wish to enhance this may take feminist pedagogical approaches (Gustafson 1999) to more explicitly decentralize authority, or find more options for students to have creative agency and make choices in class settings. Steps such as this would be in line with current calls for progressive dance education pedagogy (Huddy and Stevens 2014). These are but a couple of the implications for dance education; perhaps it is more simply stated that, as dance scholar Leena Rouhiainen claimed, 'One way of implementing [Somatics'] aims is to understand dance not only as a means of arts education but as a means of teaching students to be sensitive and self-reflective, perhaps even somewhat more embodied, individuals' (2008: 256). Rouhiainen's advocacy for the inclusion of Somatics pedagogy in dance education is reminiscent of Huddy and Stevens' assertion that dance trains 'transferable life skills,' such as communication, problem-solving, critical-thinking, and creativity (2014: 1-2) *and* Shapiro's (1998a) assertions that

a focus on embodiment shifts dance education from an emphasis on skill acquisition towards a deepening understanding of self and others for the possibility of change.

Eddy (2009), Long (2002) and Batson (2009a) each claim that a goal of somatic practices is to develop sensory motor awareness, or a *refined sensory perception* in my analysis; they attribute benefits, such as facilitating 'self-organization, self-healing, or self-knowing' (Eddy 2009: 8), for example, to this sensory development. If, as these authors posit, the benefits stem from refined sensory perception, perhaps some of the other benefits above—technical proficiency, reduced injury, and increased expressiveness—are likewise facilitated through this increase in sensory awareness. Indeed, it is perhaps through the buffering at implicational level and the loop from body-state through implicational to effector output that dancers create expressiveness; by repatterning their cognitive habits through somatic practices and operating in the implicational system as a default more often, dancers could potentially tap into affective states which translate into expressiveness. Of course, at this stage, such assumptions are just that—hypotheses that require further testing.

12.3.3 Creativity Measuring

A final issue concerns the testing—or measurement—of creativity within dance. As noted in Chapter 2, Stevens et al. (Stevens and McKechnie 2005; Stevens, Malloch, and McKechnie 2001) take issue with the precept that in most creativity and cognition research mental processes rely on language and visual

representation, because dance ideas are shared 'in both words and movement' (Stevens, Malloch, and McKechnie 2001: 55) and choreographic cognition is 'hidden, rapid, multimodal, and non-verbal' (Stevens 2005a: 155). Especially in forms like contemporary dance, movement is often not formally codified, or 'fixed' in meaning like verbal/propositional forms are. And my analysis, which found that implicational meaning is the most commonly-generated meaning form in somatic practice, confirms the lack of 'fixed' meaning emerging from Somatics-based contemporary dance. This understanding of movement as a form of knowledge, meaning-making, or cognitive process in its own right is supported by not only Stevens et al's critiques above, but also much dance research literature (for some examples, see: Batson and Wilson 2014, deLahunta and Barnard 2005, Hanna 2015, Kirsh 2010).

The ICS model, with its inherent multimodality and incorporation of nonpropositional meaning, raises many questions about applying existing creativity testing theory to the concept of choreographic cognition. Firstly—if dance expertise is evidenced by a strategy of building rich implicational meaning-space, yet in these verbal and figural measurements creativity is necessarily expressed in fixed forms, then how could one measure creativity in dance accurately with a paper-and-pencil test? And how do we measure creativity in a way that addresses these forms of meaning, and not just the propositional forms of the psychometric tests discussed in Chapter 2?

There are 'different cognitive constructs tapped by [different] measures of "creativity" across studies' (Abraham et al. 2012a, as cited in Jung et al. 2013: 8),

implying the need for domain-specific measurements. Neurocognitivists Jung et al. claim that creative cognition is 'more specialized in terms of its focus (i.e., often domain specific) and type of adaptive problem solving' than other cognition (2013: 9). Their proposal (which, it should be noted, is *not* based in ICS) that the default mode network works in conjunction with the cognitive control network to facilitate the full process of BVSR suggests that Simonton's (1999, 2010, 2011a) theory may be supported by neurological structures. This may give more credence to his BVSR theory over other theories of creative cognition, thus lending support to the use of divergent thinking tasks as reliable assessments of creativity, particularly when used in conjunction with a more domain-specific measurement. Yet, as Stevens and McKechnie (2005: 245) claim, 'creativity in contemporary dance is movement based and material evolves from experimentation and exploration in the medium itself'—so a truly accurate measurement ought to test creativity in the domain—i.e. *in the medium of movement*. But such a measurement has yet to be developed. So, how do researchers measure divergent thinking when meaning exists on an implicational level? Are there ways of tapping into nonverbal and abstract modes, like movement, to measure divergent thinking? Perhaps these could be modelled on the non-verbal figurative drawings in tests like the gold-standard Torrance tests, but modified to include the range of aspects covered by the complementary verbal listings.

Beyond just the mode of testing though, how could we investigate how creativity informs not only movement generation (Anon. 2015), but selection and retention, and the form-making or linking of elements (Stevens, Malloch and

McKechnie 2001) in choreographic practice—those processes of problem solving in the movement moment to discover novel and useful choreography? And is there any difference in these subsequent stages of the creative process between improvisational and 'set' choreography? My research was looking for commonalities, but it begs the question what, if any, significant differences in cognitive flow facilitate the differences in these various ways of working?

At this point, answers to these questions would be purely speculative. Perhaps future research can design scales that look at the variation in the BVSR theory from the perspective of the ICS framework to better approximate measurements of the domain-specific forms of creativity and implicational meaning with which dancers engage. Perhaps new motion-capture technologies may offer a way of recording novelty in movement, rather than through verbal or figural reporting. Perhaps these could be combined with phenomenological methods addressing creativity experts' often implicit theories of creativity (Maksić and Pavlović 2011) to ascertain how experts within a domain identify novelty or usefulness in dance. Perhaps, through practicing a transposition into propositional (verbal) form dancers may, like the wine connoisseur mentioned in Chapter 2, get better at transposing those implicit meanings into explicit or propositional forms tested traditionally.

And perhaps, like the wine expert, dancers have developed their own form of expertise which can be included in future considerations of testing choreographic creativity. My current research suggests the above methods and proposes that perhaps dancers' frequent awareness of their own physicality and

embodied cognition leads to a fine-tuned perception of embodiment and, thus, their body state and physical subsystems' in/output. Their ability to creatively generate meaningful movement from this perceptual awareness may evidence a bridge between these systems and the implicational subsystem—creating more potentialities in movement variation to selectively retain—while avoiding propositional meaning almost entirely. Exploring this proposal through analysing multimodal datasets (written, spoken, observed visually and kinaesthetically) through the lens of interdisciplinary theories could offer a multifaceted perspective on the many meaning-types—propositional and implicational—in dance making. It is a challenge that must be addressed—creatively—with developments that make use of the strengths of mixed methodologies and consider the full gamut of the multimodal experience that is dance choreography by researchers in the future.

12.4 Conclusions

In this chapter I have presented a number of future directions and implications from the research conducted for this thesis. Among them are the suggestion that, through my proposal, ICS functionally becomes an embodied cognition model. Additionally, because the processing shifts I propose occur in somatic movement contexts are shared with those proposed in mindfulness traditions, there may be a strong connection between mindfulness and Somatics. I also discuss how language often operates in non-normative ways in Somatics when used to capture or report embodied experience. Furthermore, my study was focused on novelty in movement generation but carries some implication for the next phase

of choreography, namely the selection process. Next, there are pedagogical implications. My research supports previous claims of the benefits of including Somatics in dance education and identifies areas which teachers may wish to focus on if their goal is to increase creativity in dance students. Finally, there are some questions raised concerning the nature of creativity testing as it stands today, and suggestions that future iterations of measures aim to include implicational meaning in their testing, perhaps even initiating domain-specific, movement-based measurements for dancers.

Together, each of these proposals, if implemented, might shed light on some ways that somatic practices, through their capacity to facilitate creativity in dancers, might promote wellness. Illustrating the interrelation of themes in my analysis with wellness, Richard Shusterman (2004) claims in his philosophy of 'somaesthetics' that working with a somatic approach can benefit health, increase pleasure and awareness of our feelings (or implicational meaning), refine bodily experience (or sensory perception), and allow us more agency and mastery over our behaviour, as we become more aware of habit and able to make conscious choice (2004: 53-54). It is clear that the themes uncovered in this research have echoes across the existing literature, themes which have an impact for not only creativity research, but also the fields of Somatics, dance education, and cognitive science more broadly. Though these implications await support from future research, they lay some groundwork for exciting potentials, and form the ground for the final chapter of this thesis, the Conclusions.

CHAPTER 13. CONCLUSIONS

My doctoral research forms part of the 'In the Dancer's Mind' project, an interdisciplinary, longitudinal and cross-sectional study undertaken by Plymouth University, Trinity Laban Conservatoire, and Coventry University researchers investigating whether training metacognition of dance students' mental imagery impacts creativity. As that research requires reflection on creativity, I too, began to reflect on my own creative journey as a dancer and choreographer, somatic practitioner, and educator. As I did, I realized that my own creative development held a significant turning point, which was when I encountered Somatics for the first time in my Master's studies. Studying Somatics not only seismically changed my thinking about dance, but completely shifted my very way of being-in-the-world, increasing my sensory engagement with my body on a daily basis, my sense of self and empowerment, and more. I felt that somatic practices had made me not only a more creative choreographer, but a more creative person, for, as Tufnell (2017a) observed, 'this work is about opening up to life on every front.'

This thesis began with a quest to learn whether that experience was unique to me, or indeed, commonplace. I had anecdotally heard similar world-view-changing reflections from colleagues and read the research on benefits of somatic practice—from injury reduction and skill acquisition (Batson 1990, Brodie and Lobel 2004, Fortin and Siedentop 1995) to efficiency in movement (Batson and Schwartz 2007), to increased self-authority and empowerment (Eddy 2009, Fortin 1998, Green 1999), to a mind-body-spirit 'healing' (Hanna 2006) and beyond (see Chapters 2 and 12). In previous workshops, I often heard

claims about creativity, yet the field lacked any existing research onto creativity in the Somatics environment that honoured both the holistic, subjective perspectives of artists from Somatics and the definitional clarity, circumscribed theories, and rigour of approach to creativity characteristic of cognitive science, the field in which creativity research lies academically. (Indeed, the reaction from many of my professional-dance-artist friends, when I said I was going to undertake doctoral study on creativity was, 'But you can't research that! How can you define *creativity*?'—a perspective illustrative of the lack of discrimination with which most lay people, dancers, and indeed research in dance on creativity, use the term [Kaufman 2016: 21].) Indeed, one aspect of this thesis' original contribution is the linking of concepts communal within Somatics to the precision of these concepts within the psychological discourse. To do so, my research led me to three main questions: Firstly, how is creativity understood (defined, identified, and potentially facilitated) within Somatics contexts? And then, how do those understandings overlap, inform, or challenge cognitive psychological perspectives? Finally, how does creative cognition stemming from somatic practices operate?

Answering these questions extends creativity research on dancers, and approaches the question posed by deLahunta, Clarke, and Barnard (2012: 244), which I introduced in Chapter 1, in which they asked: 'How can a scientific understanding of the organization of the mind provide ideas that can be used to augment creativity in dance, and how might somatic approaches both learn from and contribute to this?' This research offers a 'bi-directional' approach called for in dance and science where 'neither dance nor science takes analytical primacy'

(Batson and Wilson 2014: 20), as it seeks to 'learn from and contribute to' cognitive psychological knowledge of creativity in dance by examining communal perspectives emerging from Somatics.

Somatics is a wide field, encompassing many techniques for mind-body-spirit integration. In order to gain understandings representative of Somatics as a field, rather than a single practitioner, I needed to collect data from multiple people, working in multiple environments, using multiple somatic practices; Andrea Olsen, Sandra Reeve, and Miranda Tufnell provided me with this international sample which spans client, community, and educational environments and encompasses a range of somatic modalities. Their participation allowed me to access multimodal data, from participant observation of their workshops (and ensuing field notes, recordings, photographs and 'bodily memory' [Sklar 2000: 75]), personal one-on-one semi-structured interviews, and a wide range of published texts on their perspectives and practices. From this data set, I sought those common understandings, and generated a range of themes presented in Chapter 5. These included key themes of: pedagogical elements (inclusive of shared themes of a safe environment, connection to self/other/environment, balancing of inner and outer, and a sense of agency/autonomy/choice), refined sensory perception, awareness of habit to discover novelty, meaning (including sub-themes of nonpropositional meaning and embodied cognition, as well as the transposition of meaning into other forms including writing), giving form, and usefulness. In my organization of these themes in Chapters 5 through 10, I argue that the pedagogical elements lead to a refined sensory perception, which operates as the change agent allowing dancers to discover meaning and novelty

(through an increased awareness of options) in their movement generation. Through confirmation of these themes with the artists themselves, I assert this progression is representative not only of my experience, but moreover that these themes *are* indeed shared across the field of Somatics, and contribute new knowledge, representing the ways in which somatic practices help to facilitate creativity in dance.

My research has revealed that refined perception can lead to awareness of movement affordances, and therefore novelty and creativity. I argue in Chapter 6 that Somatics deepens engagement with the sensorial, pushes dancers' perceptual abilities so that they may differentiate sensory information on a more subtle level, and thus perceive more options in their movement (Chapter 7). Thus, I view this refined sensory perception as the 'change agent' in facilitating creativity in somatic practices. As such, my research chimes with Batson and Wilson's (2014: 130-131) argument that a focus on the sensorial is a key aspect to creating change within Somatics, and similarly agrees with Somatics researchers Brodie and Lobel (2004: 82) that 'a new sensitivity can be established' through somatic practices that can lead to change as well as new pathways and 'new choices with movement.' These new pathways, in my argument, are both physical and mental: my analysis, building upon an organization of the emergent themes, also offers a proposal for how Somatics may affect and alter cognitive processing. To wit, in Chapter 11, I present a theory of how physically-derived (sensorial) information is processed in mental space in somatic practices. This audit trace aims to explain how this refined sensory perception leads to meaning and an expanded awareness of novel

options in movement and is situated within the Interacting Cognitive Subsystems model of mental architecture. I argue that not only is there emphasis on sensing (physical pathways), but the switch to attending largely within implicational meaning-space evidences a shift in mental pathways from a common western practice of hosting cognitive processing in propositional space. Tufnell highlights this when she claims,

> Our attention tends to lock into one modality, often narrow and focused as when we read a book or work on a computer. Yet for creativity to flourish we need to loosen our everyday functional and purposive mind—and let the field of attention 'breathe,' widen, be curious. Then, like opening a window and letting in fresh air, our eyes begin to see differently, we discover new possibilities and perspectives. (2017a: 108)

Through this audit trace, my theory proposes that, through somatic practices, dancers develop a refined perceptual ability. This perceptual ability provides somatically-oriented dancemakers with rich 'emergent sensory data' (Batson and Wilson 2014: 132) from the moving body which I argue (in Chapter 11) is then looped again into the system through buffering in body state and implicational subsystems. This non-verbal, schematic meaning is then realized in movement through a transposition to the effector system. By following this loop, my audit trace of this creative cognitive flow proposes that somatic practices in particular facilitate cognitive processing that avoids propositional meaning space, returning dancers' thinking patterns to approximate an earlier evolutionary model for in-the-moment multisensory awareness. This carries implications, presented in Chapter 12, that somatic practices are themselves a form of mindfulness, highlighting an avenue for further investigation. Furthermore, the theory I develop in Chapter 11 emphasizes nonpropositional cognitive processing, building on Stevens et al's challenges of the dominant

existing 'creative research [that] assumes verbal/visual' processing and offering further support, and a proposed flow of information, for preliminary propositions that dancers 'bypass the verbal coding stage' (2003: 319). I further argue in Chapter 11 that this ability to engage in nonpropositional meaning directly from, and to, our bodies allows for the development of expertise—a refined sensory perception as well as a richly-populated implicational meaning space directly connected to physical in- and outputs, that allows for somatic practitioners to become aware of more affordances, thus leading to more divergent choreographic thinking (and engendering novelty). This also reinforces previous assertions by Stevens et al. (ibid.), that 'not only the motive for *creating movement* material, but also the *representation* of movement […] is non-verbal.' In my argument (Chapter 11), the physical in- and out-puts, as they couple to form the loop, create a cycle of feeling-thinking-moving which largely bypasses propositional, verbal meaning altogether, and feeds back into itself for deeper, richer explorations of the meaning emergent from dancing, allowing, as Olsen asserts, 'to keep cycling through the process, without getting fixated on sensation, emotion, language, or theory' (2014: 131). Thus, I argue that the physical elements are constitutive of cognition as much as the mental processes, making my proposal a merging of representational cognitive models and embodied cognitive theory (as discussed in Chapter 12).

In this way, my research attempts to address some of the problems involving creative cognition research in dance identified by previous researchers (Stevens et al. 2003, see Chapter 2), offering a theory which extends beyond the verbal/visual processing assumptions in much creativity research. This research

is the first time that these frameworks (Somatics, creativity, ICS, and embodied cognition theories) have been brought together and investigated for commonalities (and complications). As such, it offers a model for an 'anti-reductionist approach to investigating the processes of cognition' integrating the body, brain and thinking (Batson and Wilson 2014: 20, Sheets-Johnstone 1981) and thus contributes to calls for exploring dance cognition from subjective and objective (embodied and scientific) perspectives (Batson and Wilson 2014, Gallagher 2014, May et al. 2011). My interpretive analysis produces original knowledge of how somatic practitioners may understand creativity in choreography and offers potential future avenues for enhancing creativity (in Chapter 12) through the pedagogical elements identified. It marks the first time cognitive processes in creativity in Somatics have been examined and proposes a model of cognitive information flow for Somatics-based choreographic practice (Chapter 11). It also represents the first attempt to explicitly integrate the ICS model within the embodied cognition discourse (Chapter 12), therefore offering a radical and progressive perspective from both representational (computational) and situated cognitive perspectives. In doing so, it also points to area for future research to potentially extend the ICS model, proposing amendments as the model evolves to meet the lived experiential understandings from dancers and somatic practitioners.

My research thus covers much ground, and has identified clear pathways for future research, covered in Chapter 12. Some of these consequences, outlined in section 12.3, from my proposal are: the implications that particular aspects of dance pedagogy might facilitate creativity in dance education settings, and some

potential avenues for development of modality-specific creativity measurements that reflect the implicational meaning made in Somatics and dance. Though these areas are beyond the scope of this thesis, they provide intriguing and fruitful areas for future inspection. Furthermore, as noted in section 12.3, this study, as previous creativity research in dance, primarily focused on the generation of movement; it did not necessarily examine the selection process following initial movement generation—an integral part of the choreographic process, and thus another area which requires further inspection.

Because I was interested in getting a holistic picture of individual, subjective perspectives on creativity in Somatics, I necessarily had a small sample size; though I attempted to include practitioners working in a variety of settings and modalities, my claims that these themes comprise shared thinking across the field would benefit from a larger group of artists' data. Therefore replicating this inquiry with a larger sample size would reaffirm the themes' importance across the field of Somatics, and is another avenue for future directions of this research. Also, as noted in Chapter 4, a constraint such that I had access to multiple forms of data was that the artists had published work; it is possible that their inherent expertise as writers may have impacted on some of the themes, so future study of expert artist-practitioners who do not publish would be warranted. Furthermore, it was beyond my capabilities in this research project to be present for the full dynamic unfolding of a choreographic work, as in other qualitative investigations into creative cognition in dance (Grove, Stevens and McKechnie 2005, Stevens et al. 2003), and, as this research is focused on choreographic cognition, it would be recommended to question the themes and proposed

cognitive processing within the dynamic context of an artist-practitioner making a performance work.

Finally, as I have noted in Chapter 2, embodied cognition is one subset within the wider situated cognition discourse. It was also beyond the scope of this research to include extended or distributed (particularly social) cognition in this investigation, however, choreography—and indeed, somatic practice—is often a communal undertaking, so a consideration of creative choreographic cognition inclusive of distributed models is especially recommended.

A premise of this research project is that Somatics offers opportunities to engage with creativity and meaning-making in an embodied way, and that it should therefore be an essential component of a dancer's education and training. It is also a premise of this research that Somatics is an area rich for cognitive psychological creativity research, offering unique challenges and opportunities to develop the creativity discourse to more accurately reflect dancers' lived experiences of their own cognition. I believe that the evidence within my research supports these premises. The fields of Somatics and cognition continue to expand and develop, and this research in some ways extends those discourses as well as points to avenues ripe for future research. As those fields progress, so too may the proposals offered here develop and evolve. For, just as dancers attempt to transpose complex, ineffable, and plurisemic meanings into movement and language in the model I propose, so too, am I attempting to articulate, through this thesis, deeply embodied knowledge and processes. Further, just as I assert that dancers can use techniques from Somatic practices

to develop their expertise and more closely align their movement with that meaning, so too, may I continue to develop my expertise in researching and writing about those multifaceted, multimodal processes, engaging my own creative cognition to continue to more closely approach an understanding and articulation of that complex cognition.

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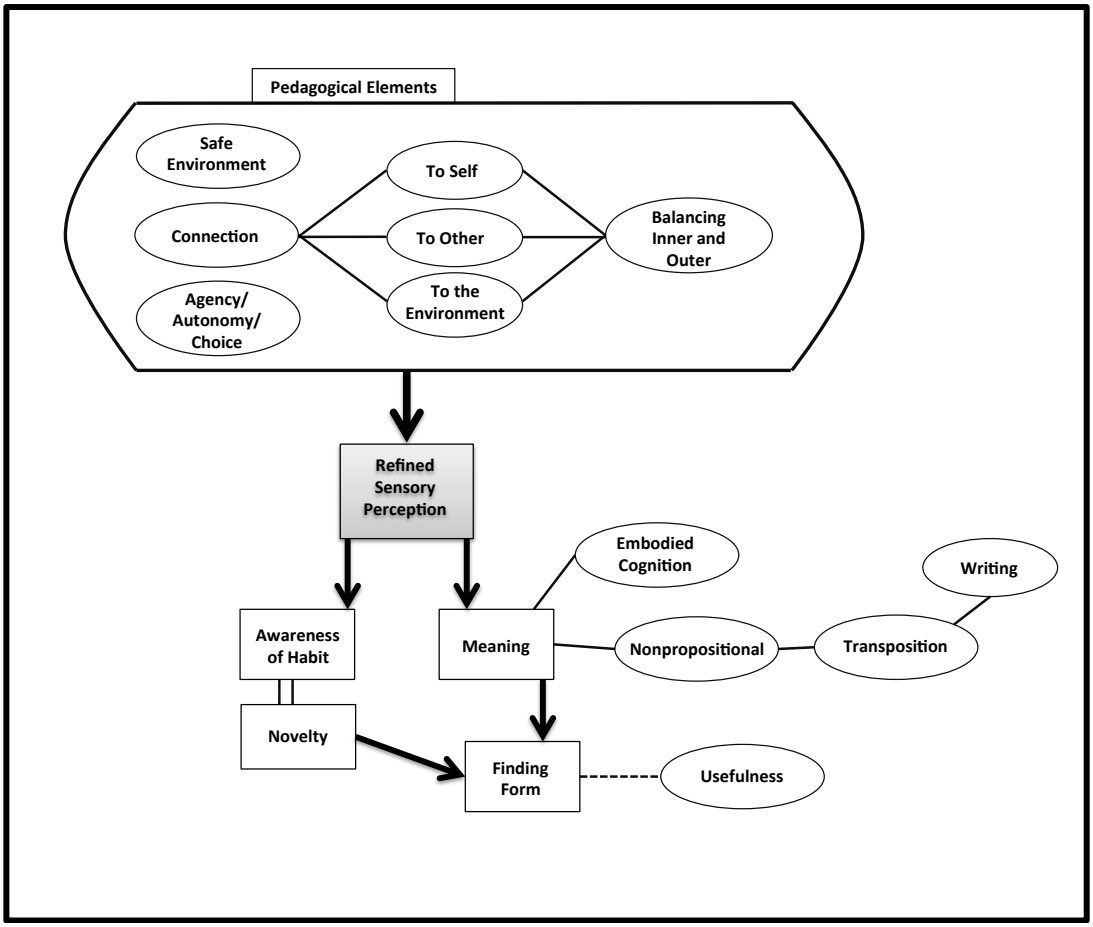
APPENDICES

Appendix 1. Visual Representation of Themes and Their Relationships

This visual depiction is reinserted here in the appendix for ease of reference. It originally appears as Figure 2 in the thesis (Chapter 5).



Appendix 2. Depictions of the ICS Architecture

Some materials have been removed due to 3rd party copyright. The unabridged version can be viewed in Lancester Library - Coventry University.

Figure 1: The ICS Model (From Weber 2017, as modelled on figure from May & Barnard 2004). In this figure, black arrows signify 'abstractive' flow, white arrows denote 'elaborative' flow, and dashed arrows 'are indirect, because they represent information exchange mediated by changes in the body' (May & Barnard 2004: 295)

This is the ICS Model, visually represented as depicted in Chapter 2.
The version from Chapter 11 is on the next page for ease of comparison. The centre column of subsystems indicates the four 'internal' subsystems that combine to create three cognitive loops.

Figure 3: The ICS Model (from deLahunta, Clarke, and Barnard 2012: 254)

This is the ICS Model, visually represented as depicted in Chapter 11.
Note: this is a slightly updated version of the model from the one presented in Chapter 2 (from Weber 2017) above. This model reflects the same 9-subsystem architecture, though now 'limb' has been renamed 'effectors' and there is a connection from implicational directly to limb/effector, not through body-state, reflecting updates from Barnard's work with dancers. Also, the four 'internal' subsystems are presented in a central horizontal row, rather than in a vertical column.

Appendix 3. List of Workshops, Retreats, and Interviews

Andrea Olsen:

- 2 Courses offered as part of Bates Dance Festival at Bates College (Lewiston, Maine, USA) from 23rd July – 6th August 2016
    - '*Body and Earth* – Cultivating Connections'
    - 'Moving/Writing'

- Interview: 19 October 2015, Smith College (Northampton, Massachusetts, USA)

Sandra Reeve:

- 2 Modules from the *Move into Life* training programme, Wootton Fitzpaine Village Hall, (Bridport, Dorset):
    - 'Body in Motion,' 6-7 February 2016
    - 'Movement and Communication,' 5-6 March 2016

- 'Contexts of Time and Space in Ecological Movement' Artists' Retreat with Sandra Reeve, 14-18 March 2016, Coventry University and Coventry University's Centre for Dance Research, Coventry.

- Workshop as part of the Dance and Somatic Practices Conference, 7 July 2017, Coventry University, Coventry.

- Interview: 4 May 2016, Cider Cottage - Westover Farm, Lyme Regis, (Bridport, Dorset)

- Follow-up Interview: 8 July 2017, Coventry University (Coventry, West Midlands)

Miranda Tufnell:

- 'A Widening Field' dance intensive, presented by Merseyside Dance Initiative (at Liverpool John Moore's University, Merseyside, Liverpool) 11-12 June 2016.

- One-on-one individual artist retreat, 20-21 June 2016, held partially at the Finstock Village Hall (Chipping Norton, Oxfordshire), partially at Tufnell's home in the Cotswolds, and partially in the Wich Woods.

- Interview: 20 June 2016, Finstock Village Hall, (Chipping Norton, Oxfordshire)

- Follow-up interview: 17 July 2017, Skype (online)

Appendix 4. List of Artists' Published Works Consulted

Note: This list only includes formally published work, and does not list their websites, or a radio interview of Olsen, which were also consulted.

Olsen

- Olsen, A. (2013) 'Sustainability and Artmaking'. *Sustainability* 6 (3), 142-146
- Olsen, A. (2007) ' Being Seen, Being Moved: Authentic Movement and Performance'. in *Authentic Movement: Moving the Body, Moving the Self, Being Moved - A Collection of Essays*. ed. by Pallaro, P. London: Jessica Kingsley Publishers, 321-325
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Reeve

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Tufnell

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Appendix 5. Interview Questions

Somatics, Creativity, and Choreography Questionnaire

1. How do you identify as a professional within the dance and Somatics community? (i.e. as a choreographer, practitioner, educator, artist, etc.)
    Do you feel any of these roles as 'primary'?
    Do you specialize in any particular somatic practice?

2. What do you feel are the benefits of somatic practices—for artists? For dancers? For lay-people?

3. Were you a practicing artist prior to your somatic training and practice? If so, how do you feel the Somatics has affected your process and work?

4. Is your work performative? If so, how? (i.e. do you perform on stage or site-specific works, etc.)

5. Do you work with dancers or other collaborators? Do you make works for multiple performers or solo work?

6. When you begin a new piece of choreography, how do you typically start?

7. Do you use improvisation or imagery in your process? Why or why not? If so, do you feel these are influenced by your somatic practice, or could they be more typical to a non-Somatics based choreographer?

8. How do you document your work? (Either along the way, or post-creation; either theoretical or practical)

9. How would you define *creativity*? How do you identify a dance work as 'creative'?

10. Do you think anyone can be creative?
    Do you believe people can train to become more creative? If so, how? If not, why?

11. Do you have any thoughts that came up during this interview that you would like to share which were not directly asked about?

Appendix 6. Ethical Approval Documentation

Certificate of Ethical Approval

Applicant:

Janet Weber

Project Title:

Somatics, Creativity, and Choreography

This is to certify that the above named applicant has completed the Coventry University Ethical Approval process and their project has been confirmed and approved as Medium Risk

Date of approval:

26 October 2015

Project Reference Number:

P36865

Medium to High Risk Research Ethics Approval

Project Title

Somatics, Creativity, and Choreography

Record of Approval

Principal Investigator

I **request an ethics peer review** and confirm that I have answered all relevant questions in this checklist honestly.	X
I confirm that I will carry out the project in the ways described in this checklist. I will immediately suspend research and request new ethical approval if the project subsequently changes the information I have given in this checklist.	X
I confirm that I, and all members of my research team (if any), have read and agreed to abide by the Code of Research Ethics issued by the relevant national learned society.	X
I confirm that I, and all members of my research team (if any), have read and agreed to abide by the University's Research Ethics, Governance and Integrity Framework.	X

Name: Janet Weber .....

Date: 06/10/2015.....

Student's Supervisor (if applicable)

I have read this checklist and confirm that it covers all the ethical issues raised by this project fully and frankly. I also confirm that these issues have been discussed with the student and will continue to be reviewed in the course of supervision.

Name: Sarah Whatley .....

Date: 22/10/2015.....

Reviewer (if applicable)

Date of approval by anonymous reviewer: 26/10/2015

Medium to High Risk Research Ethics Approval Checklist

Project Information

Project Ref	P36865
Full name	Janet Weber
Faculty	School of Art and Design
Department	Performing Arts
Supervisor	Sarah Whatley
Module Code	
EFAAF Number	
Project title	Somatics, Creativity, and Choreography
Date(s)	29/01/2015 - 29/01/2018
Created	06/10/2015 12:57

Project Summary

I am conducting research into creativity in choreographers who utilise somatic practices to generate novel movement for theatrical productions. I am limiting the scope and focus of my research to seminal/world-renowned artists who act as Somatic practitioners, choreographers, and performing artists. I will be using ethnographic frameworks of data collection to gather their responses to an open-ended questionnaire/interview about the creative process and overlap between artists' definitions/perceptions of creativity and those coming from the cognitive psychology field; these responses will be recorded and analysed using grounded theory and qualitative research methodologies to help refine future questionnaires and, eventually, some quantitative measurements of creative engagement in somatic choreographic practices.

Names of Co-Investigators and their organisational affiliation (place of study/employer)	
Is the project self-funded?	YES
Who is funding the project?	I receive support (maintenance grant, tuition remission) from the Leverhulme Trust sponsored project "In the Dancer's Mind".
Has the funding been confirmed?	YES
Are you required to use a Professional Code of Ethical Practice appropriate to your discipline?	NO
Have you read the Code?	NO

Project Details

What is the purpose of the project?	The project is my PhD doctoral research, which is investigating the intersections between cognitive psychology and dance and somatic practices, specifically whether somatics-based choreographers share a definition of creativity with cognitive psychological research, and whether the psychology frameworks can support the ways of generating novel movement and use of movement as a form of problem-solving that choreographers claim. The purpose of interviewing subjects who are somatics-based choreographers is to first develop a framework of what the definition of 'creativity' is within this field; these interviews form the data which will be analysed using grounded theory methodologies.
What are the planned or desired outcomes?	Though grounded theory states that a hypothesis or theory is developed in conjunction with the data that is collected and not prior to data collection, it is my hope that this data will provide evidence of some shared understanding within choreographic contexts of what it means to be 'creative' in dance. This shared understanding will then form the definition with which I intend to compare to existing cognitive psychology research definitions, and then--hopefully to later attempt to quantify and measure in dance choreographers. Understanding creativity further can help to benefit both somatics practitioners and choreographers/dance educators in generating more creative novel movement/choreography for dance performance.
Explain your research design	This research will begin with the stage I am seeking ethics approval for here--namely the pilot study which will use qualitative methods. Firstly, I will be close-reading the practitioners' texts for references to creativity and their creative practices. Then, I intend to use open-ended questionnaires to interview choreographers/somatic practitioners on their thoughts about choreography and their creative process and practices. Using a grounded theory framework, and drawing ethnographically from my own

	experience in this field, this will then be analysed by coding the responses from multiple choreographers and seeking patterns of shared understanding to develop a working definition of creativity among choreographers drawing on somatic practices. This definition will then be used in subsequent research.
Outline the principal methods you will use	Firstly, I will be working solo to read, code, and analyse the texts (primarily books, but also journals, presentation texts, etc.) of the choreographers who will form the subject-pool for my research. Then, from these readings and my own knowledge of cognitive psychology, I will create open-ended questionnaires. The data will be collected through in-person interviews, given in public or professional spaces, with the choreographers, who will all be adult professionals in their field. This is all of the methods I will be using in the pilot study for which I am seeking ethical approval, though future studies may use other methods, depending on what arises in the pilot study. I intend to apply separately for ethical approval for these future studies.
Are you proposing to use an external research instrument, validated scale or follow a published research method?	YES
If yes, please give details of what you are using	I will be developing my own research instrument for the purposes of this pilot study.
Will your research involve consulting individuals who support, or literature, websites or similar material which advocates, any of the following: terrorism, armed struggles, or political, religious or other forms of activism considered illegal under UK law?	NO
Are you dealing with Secondary Data? (e.g. sourcing info from websites, historical documents)	YES
Are you dealing with Primary Data involving people? (e.g. interviews, questionnaires, observations)	YES
Are you dealing with personal or sensitive data?	YES
Is the project solely desk based? (e.g. involving no laboratory, workshop or off-campus work or other activities which pose significant risks to researchers or participants)	NO
Are there any other ethical issues or risks of harm raised by the study that have not been covered by previous questions?	NO
If yes, please give further details	

DBS (Disclosure & Barring Service) formerly CRB (Criminal Records Bureau)

Question			Yes	No
1	Does the study require DBS (Disclosure & Barring Service) checks?			X
	If YES, please give details of the serial number, date obtained and expiry date			
2	If NO, does the study involve direct contact by any member of the research team:			
	a) with children or young people under 18 years of age?			X
	b) with adults who have learning difficulties, brain injury, dementia, degenerative neurological disorders?			X
	c) with adults who are frail or physically disabled?			X
	d) with adults who are living in residential care, social care, nursing homes, re-ablement centres, hospitals or hospices?			X
	e) with adults who are in prison, remanded on bail or in custody?			X
	If you have answered YES to any of the questions above please explain the nature of that contact and what you will be doing			

External Ethical Review

Question		Yes	No
1	Will this study be submitted for ethical review to an external organisation? (e.g. Another University, Social Care, National Health Service, Ministry of Defence, Police Service and Probation Office)		X
	If YES, name of external organisation		
2	Will this study be reviewed using the IRAS system?		X
3	Has this study previously been reviewed by an external organisation?		X

Confidentiality, security and retention of research data

Question			Yes	No
1	Are there any reasons why you cannot guarantee the full security and confidentiality of any personal or confidential data collected for the study?			X
	If YES, please give an explanation			
2	Is there a significant possibility that any of your participants, and associated persons, could be directly or indirectly identified in the outputs or findings from this study?		X	
	If YES, please explain further why this is the case	I am looking at specific individuals who are renowned in the fields of dance and somatics. I will seek their consent to use their names and any information they choose to share with me in the scope of this doctoral research and/or any simultaneous or subsequent publications, and will not use any information without their consent.		
3	Is there a significant possibility that a specific organisation or agency or participants could have confidential information identified, as a result of the way you write up the results of the study?			X
	If YES, please explain further why this is the case			
4	Will any members of the research team retain any personal of confidential data at the end of the project, other than in fully anonymised form?		X	
	If YES, please explain further why this is the case	I will only retain their name and the perspectives they choose to share with me--no confidential data, beyond the contact details they share with me (email address, possibly phone number if needed) for personal research reasons. Beyond their name and their views, the information will not be shared with anyone other than the primary researcher.		
5	Will you or any member of the team intend to make use of any confidential information, knowledge, trade secrets obtained for any other purpose than the research project?			X
	If YES, please explain further why this is the case			
6	Will you be responsible for destroying the data after study completion?		X	
	If NO, please explain how data will be destroyed, when it will be destroyed and by whom			

Participant Information and Informed Consent

Question			Yes	No
1	Will all the participants be fully informed BEFORE the project begins why the study is being conducted and what their participation will involve?		X	
	If NO, please explain why			
2	Will every participant be asked to give written consent to participating in the study, before it begins?		X	
	If NO, please explain how you will get consent from your participants. If not written consent, explain how you will record consent			
3	Will all participants be fully informed about what data will be collected, and what will be done with this data during and after the study?		X	
	If NO, please specify			
4	Will there be audio, video or photographic recording of participants?		X	
	Will explicit consent be sought for recording of participants?		X	
	If NO to explicit consent, please explain how you will gain consent for recording participants			
5	Will every participant understand that they have the right not to take part at any time, and/or withdraw themselves and their data from the study if they wish?		X	
	If NO, please explain why			
6	Will every participant understand that there will be no reasons required or repercussions if they withdraw or remove their data from the study?		X	
	If NO, please explain why			
7	Does the study involve deceiving, or covert observation of, participants?			X
	Will you debrief them at the earliest possible opportunity?			
	If NO to debrief them, please explain why this is necessary			

Risk of harm, potential harm and disclosure of harm

Question			Yes	No
1	Is there any significant risk that the study may lead to physical harm to participants or researchers?			X
	If YES, please explain how you will take steps to reduce or address those risks			
2	Is there any significant risk that the study may lead to psychological or emotional distress to participants?			X
	If YES, please explain how you will take steps to reduce or address those risks			
3	Is there any risk that the study may lead to psychological or emotional distress to researchers?			X
	If YES, please explain how you will take steps to reduce or address those risks			
4	Is there any risk that your study may lead or result in harm to the reputation of participants, researchers, or their employees, or any associated persons or organisations?			X
	If YES, please explain how you will take steps to reduce or address those risks			
5	Is there a risk that the study will lead to participants to disclose evidence of previous criminal offences, or their intention to commit criminal offences?			X
	If YES, please explain how you will take steps to reduce or address those risks			
6	Is there a risk that the study will lead participants to disclose evidence that children or vulnerable adults are being harmed, or at risk or harm?			X
	If YES, please explain how you will take steps to reduce or address those risks			
7	Is there a risk that the study will lead participants to disclose evidence of serious risk of other types of harm?			X
	If YES, please explain how you will take steps to reduce or address those risks			
8	Are you aware of the CU Disclosure protocol?		X	

Payments to participants

Question		Yes	No
1	Do you intend to offer participants cash payments or any kind of inducements, or reward for taking part in your study?		X
	If YES, please explain what kind of payment you will be offering (e.g. prize draw or store vouchers)		
2	Is there any possibility that such payments or inducements will cause participants to consent to risks that they might not otherwise find acceptable?		
3	Is there any possibility that the prospect of payment or inducements will influence the data provided by participants in any way?		
4	Will you inform participants that accepting payments or inducements does not affect their right to withdraw from the study at any time?		

Capacity to give valid consent

Question			Yes	No
1	Do you propose to recruit any participants who are:			
	a) children or young people under 18 years of age?			X
	b) adults who have learning difficulties, mental health condition, brain injury, advanced dementia, degenerative neurological disorders?			X
	c) adults who are physically disabled?			X
	d) adults who are living in residential care, social care, nursing homes, re-ablement centres, hospitals or hospices?			X
	e) adults who are in prison, remanded on bail or in custody?			X
	If you answer YES to any of the questions please explain how you will overcome any challenges to gaining valid consent			
2	Do you propose to recruit any participants with possible communication difficulties, including difficulties arising from limited use of knowledge of the English language?			X
	If YES, please explain how you will overcome any challenges to gaining valid consent			
3	Do you propose to recruit any participants who may not be able to understand fully the nature of the study, research and the implications for them of participating in it or cannot provide consent themselves?			X
	If YES, please explain how you will overcome any challenges to gaining valid consent			

Recruiting Participants

Question			Yes	No
1	Do you propose to recruit any participants who are:			
	a)	students or employees of Coventry University or partnering organisation(s)?		X
		If YES, please explain if there is any conflict of interest and how this will be addressed		
	b)	employees/staff recruited through other businesses, voluntary or public sector organisations?		X
		If YES, please explain how permission will be gained		
	c)	pupils or students recruited through educational institutions (e.g. primary schools, secondary schools, colleges)?		X
		If YES, please explain how permission will be gained		
	d)	clients/volunteers/service users recruited through voluntary public services?		X
		If YES, please explain how permission will be gained		
	e)	participants living in residential care, social care, nursing homes, re-ablement centres hospitals or hospices?		X
		If YES, please explain how permission will be gained		
	f)	recruited by virtue of their employment in the police or armed forces?		X
		If YES, please explain how permission will be gained		
	g)	adults who are in prison, remanded on bail or in custody?		X
		If YES, please explain how permission will be gained		
	h)	who may not be able to refuse to participate in the research?		X
		If YES, please explain how permission will be gained		

Online and Internet Research

Question			Yes	No
1	Will any part of your study involve collecting data by means of electronic media (e.g. the Internet, e-mail, Facebook, Twitter, online forums, etc)?			X
	If YES, please explain how you will obtain permission to collect data by this means			
2	Is there a possibility that the study will encourage children under 18 to access inappropriate websites, or correspond with people who pose risk of harm?			X
	If YES, please explain further			
3	Will the study incur any other risks that arise specifically from the use of electronic media?			X
	If YES, please explain further			
4	Will you be using survey collection software (e.g. BoS, Filemaker)?			X
	If YES, please explain which software			
5	Have you taken necessary precautions for secure data management, in accordance with data protection and CU Policy?		X	
	If NO	please explain why not		
	If YES	Specify location where data will be stored		
		Planned disposal date		
		If the research is funded by an external organisation, are there any requirements for storage and disposal?		X
		If YES, please specify details		

Laboratory/Workshops

Question		Yes	No
1	Does any part of the project involve work in a laboratory or workshop which could pose risks to you, researchers or others?		X
	If YES: If you have risk assessments for laboratory or workshop activities you can refer to them here & upload them at the end, or explain in the text box how you will manage those risks		

Research with non-human vertebrates

Question			Yes	No
1	Will any part of the project involve animal habitats or tissues or non-human vertebrates?			X
	If YES, please give details			
2	Does the project involve any procedure to the protected animal whilst it is still alive?			
3	Will any part of your project involve the study of animals in their natural habitat?			
	If YES, please give details			
4	Will the project involve the recording of behaviour of animals in a non-natural setting that is outside the control of the researcher?			
	If YES, please give details			
5	Will your field work involve any direct intervention other than recording the behaviour of the animals available for observation?			
	If YES, please give details			
6	Is the species you plan to research endangered, locally rare or part of a sensitive ecosystem protected by legislation?			
	If YES, please give details			
7	Is there any significant possibility that the welfare of the target species of those sharing the local environment/habitat will be detrimentally affected?			
	If YES, please give details			
8	Is there any significant possibility that the habitat of the animals will be damaged by the project, such that their health and survival will be endangered?			
	If YES, please give details			
9	Will project work involve intervention work in a non-natural setting in relation to invertebrate species other than Octopus vulgaris?			
	If YES, please give details			

Blood Sampling / Human Tissue Analysis

Question			Yes	No
1	Does your study involve collecting or use of human tissues or fluids? (e.g. collecting urine, saliva, blood or use of cell lines, 'dead' blood)			X
	If YES, please give details			
2	If your study involves blood samples or body fluids (e.g. urine, saliva) have you clearly stated in your application that appropriate guidelines are to be followed (e.g. The British Association of Sport and Exercise Science Physiological Testing Guidelines (2007) or equivalent) and that they are in line with the level of risk?			
	If NO, please explain why not			
3	If your study involves human tissue other than blood and saliva, have you clearly stated in your application that appropriate guidelines are to be followed (e.g. The Human Tissues Act, or equivalent) and that they are in line with level of risk?			
	If NO, please explain why not			

Travel

Question			Yes	No
1	Does any part of the project require data collection off campus? (e.g. work in the field or community)		X	
	If YES: You must consider the potential hazards from off campus activities (e.g. working alone, time of data collection, unfamiliar or hazardous locations, using equipment, the terrain, violence or aggression from others). Outline the precautions that will be taken to manage these risks, AS A MINIMUM this must detail how researchers would summon assistance in an emergency when working off campus. For complex or high risk projects you may wish to complete and upload a separate risk assessment	I will be returning to my home country (the USA) for some interviews (particularly with one subject, Andrea Olsen, who has agreed to participate). Steps taken to avoid hazzards include meeting in a quiet public or professional location, travel insurance for the trip and travel taken to/from meeting locations. My husband, who resides in the US, will be notified as to my plans and serve as my emergency contact for the interview abroad. For interviews with UK-based practitioners (who have yet to be recruited officially), I will also take travel insurance for any out-of-town trips to meet, meet in public or professional locations, and will notify and use a colleague as emergency contact.		
2	Does any part of the project involve the researcher travelling outside the UK (or to very remote UK locations)?		X	
	If YES: Please give details of where, when and how you will be travelling. For travel to high risk places you may wish to complete and upload a separate risk assessment	I will be traveling to the USA to visit with my first participant, Andrea Olsen, who is a professor at Middlebury College. I will be traveling by rental car with travel insurance to Northhampton, Massachusetts on October 19th at 1:30pm to interview her, and we will arrange to meet in a quiet public location.		
3	Are all travellers aware of contact numbers for emergency assitance when away (e.g. local emergency assistance, ambulance/local hospital/police, insurance helpline [+44 (0) 2071 737797] and CU's 24/7 emergency line [+44 (0) 2476 888555])?		X	
4	Are there any travel warnings in place advising against all, or essential only travel to the destination? NOTE: Before travel to countries with 'against all travel', or 'essential only' travel warnings, staff must check with Finance to ensure insurance coverage is not affected. Undergraduate projects in high risk destinations will not be approved			X
5	Are there increased risks to health and safety related to the destination? e.g. cultural differences, civil unrest, climate, crime, health outbreaks/concerns, and travel arrangements?			X
	If YES, please specify			
6	Do all travelling members of the research team have adequate travel insurance?		X	

7	Please confirm all travelling researchers have been advised to seek medical advice regarding vaccinations, medical conditions etc, from their GP	X	

Appendix 7: Informed Consent Forms

Informed Consent Form

Somatics, Creativity, and Choreography

This research is around creativity and how that term is used within the Somatics community, whether somatic practices can engender creative expression, and how dance artists use Somatics to generate creative work. This research is looking for potential connections between dance studies/Somatics research and cognitive psychology to investigate the claims made about creativity within the Somatics community. For more detailed information, please review the Participant Information Sheet.

	Please initial
1. I confirm that I have read and understood the participant information sheet (Version 001) for the above study and have had the opportunity to ask questions.	AJO
2. I understand that my participation is voluntary and that I am free to withdraw at anytime without giving a reason.	AJO
3. I understand that all the information I provide will be treated in confidence.	AJO
4. I understand that I also have the right to change my mind about participating in the study for a short period after the study has concluded (prior to October 2016).	AJO
5. I agree to be filmed/recorded, for my name to appear, and for quotations to be used as part of the research project. with opportunity to review before publication.	AJO
6. I agree for my name and any information I provide to be used in any publications and presentations associated with this research project, for educational and research purposes only. with opportunity to review before publication.	AJO
7. I agree to take part in the research project.	AJO

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Informed Consent Form

Somatics, Creativity, and Choreography
This research is around creativity and how that term is used within the Somatics community, whether somatic practices can engender creative expression, and how dance artists use Somatics to generate creative work. This research is looking for potential connections between dance studies/Somatics research and cognitive psychology to investigate the claims made about creativity within the Somatics community. For more detailed information, please review the Participant Information Sheet.

	Please initial
1. I confirm that I have read and understood the participant information sheet (Version 001) for the above study and have had the opportunity to ask questions.	MT
2. I understand that my participation is voluntary and that I am free to withdraw at anytime without giving a reason.	MT
3. I understand that all the information I provide will be treated in confidence.	MT
4. I understand that I also have the right to change my mind about participating in the study for a short period after the study has concluded (prior to October 2016).	MT
5. I agree to be filmed/recorded, for my name to appear, and for quotations to be used as part of the research project. (Subject to my acting material)	MT
6. I agree for my name and any information I provide to be used in any publications and presentations associated with this research project, for educational and research purposes only.	MT
7. I agree to take part in the research project. on condition I can see & edit spoken word for women considering. 8. I agree	MT

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Informed Consent Form

Somatics, Creativity, and Choreography
This research is around creativity and how that term is used within the Somatics community, whether somatic practices can engender creative expression, and how dance artists use Somatics to generate creative work. This research is looking for potential connections between dance studies/Somatics research and cognitive psychology to investigate the claims made about creativity within the Somatics community. For more detailed information, please review the Participant Information Sheet.

	Please initial
1. I confirm that I have read and understood the participant information sheet (Version 001) for the above study and have had the opportunity to ask questions.	SR
2. I understand that my participation is voluntary and that I am free to withdraw at anytime without giving a reason.	SR
3. I understand that all the information I provide will be treated in confidence.	SR
4. I understand that I also have the right to change my mind about participating in the study for a short period after the study has concluded (prior to October 2016).	SR
5. I agree to be filmed/recorded, for my name to appear, and for quotations to be used as part of the research project.	SR
6. I agree for my name and any information I provide to be used in any publications and presentations associated with this research project, for educational and research purposes only.	SR
7. I agree to take part in the research project.	SR